BY ORDER OF THE COMMANDER
944TH FIGHTER WING

944 FW INSTRUCTION 11-402
27 December 1999

Flying Operations

**F-16 FLYING AND GROUND TRAINING FOR PILOTS*

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 11-4, *Aviation Service*, and prescribes training required to ensure all 944th Fighter Wing F-16 pilots attain and maintain established training requisites. This instruction is applicable to the 944th Fighter Wing and 302d Fighter Squadron F-16 assigned and attached pilots.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed. This version incorporates the requirements, information, procedures, and guidance formerly in 944 FGR 51-1. This revision incorporates publication short title changes, updates text formatting, and changes organizational designations.

Chapter 1

BASIC POLICIES AND RESPONSIBILITIES

1.1. Requirements:

1.1.1. Annual Requirement. A yearly requirement of annual frequency is due the last day of the month of a twelve-month period. For example: An annual requirement accomplished on 16 December 1999 is due again by 31 December 2000. A requirement due every three years accomplished on 2 November 1999 is due not later than 30 November 2002.

1.1.1. Annual or Quarterly Requirement. These requirements are due by the last day of the last month of the period. Ready Aircrew Program (RAP) tasking message annual events use this rule.

1.2. Policies:

1.2.1. Status. Upgrade pilots attain and maintain Basic Mission Capable (BMC) or Combat Mission Ready (CMR) status as stated in AFI 11-2F-16V1, *Flying Operations Training*.

1.2.2. Waiver. The 302 FS/DOT ensures waiver requests for excess upgrade time are submitted IAW AFI 11-2F-16V1.

1.2.3. Record Review. As a minimum the squadron commander, operations officer, and training officer will review the records of newly assigned pilots for total flying time, fighter experience, unit equipped (UE) flying time, and special qualifications in order to determine upgrade training requirements. In addition, the squadron commander, operations officer, and flight commanders will review the Flight Evaluation Folder (FEF) of newly assigned pilots.

1.2.4. Training Approval. The squadron commander/operations officer approves the pilot's upgrade training letter. The letter is maintained in the individual's training folder.

1.3. Responsibilities:

1.3.1. The 302 FS/DOT:

1.3.1.1. Prerequisites. Ensures all prerequisites for flights have been accomplished. Completes the upgrade letter and places it in the individual's training folder. Ensures data from the individual training period activity summary and individual currency summary are placed into the Air Force Operations Management System (AFORMS) computer.

1.3.1.2. Corrections. Ensures any training deficiency is corrected expeditiously.

1.3.1.3. Quality. Maintains overall quality/control of individual training folders, and ensures any deficiencies are corrected.

1.3.14. Proration. Informs the commander of the need to prorate/adjust training requirements according to AFI 11-2F-16V1. Documents prorations as appropriate.

1.3.2. Each pilot:

1.3.2.1. Requirements. Is knowledgeable of all training requirements for each phase of training.

1.3.2.2. Training folders. Maintains training folders by ensuring all required documentation is accomplished in a timely manner. Training folders will be maintained as per this instruction.

1.3.2.3. Discrepancies. Ensures training folder discrepancies that are not correctable are brought to the attention of the 302 FS/DOT.

Chapter 2

GROUND TRAINING

2.1. General:

2.1.1. The purpose of this chapter is to consolidate all ground training requirements prescribed by AFI 11-2F-16V1, this instruction, and other instructions as noted in tables 2.1. The objective of all training and testing will be to increase the proficiency and knowledge of pilots in attaining and maintaining CMR status. The ground training program has been established to accomplish the majority of training on an individual or group basis during the Unit Training Assembly (UTA).

2.1.2. Annual Training Schedule. A detailed yearly training plan is maintained and managed by 302 FS/DOT and is used to forecast monthly training requirements. UTA schedules outlining activities and instructors are published prior to each UTA.

2.1.3. Ground Training Requirements. This instruction has categorized ground training into three functional categories prescribed in AFI 11-2F-16V1. Each table details specific training required, applicable directive, frequency, method of training, and office of primary responsibility (OPR). These requirements are Mobility Training, Pilot Training and Awareness Program Training.

NOTE: Table 2.1 shows ground training requirements.

2.2. UTA Training Schedule:

2.2.1. Overall Schedule. The unit ancillary (ground) training program is scheduled to ensure appropriate requirements are completed in accordance with the annual training plan. Newly assigned personnel will normally not be scheduled for training given during the previous 90 days.

2.2.2. UTA Ground Training. Prior to each UTA the 302 FS/ADO and training officer will coordinate with other functional areas to determine what personnel require specialized testing and training. On the ground training day approximately six hours are available for ground training. 302 FS/DOT will also schedule ground training activities, i.e., Multi-Task Trainer (MTTs), Situational Emergency Procedure Training (SEPTs), egress/hanging harness, etc., on the flying training day for pilots who are not flying.

2.2.3. Flying Training. Combat profile missions will be planned quarterly. At least one UTA semi-annually will include a full-scale weapons delivery with live/inert ordnance.

2.2.4. UTA. Training is scheduled on UTA weekends by 302 FS/DOT. Make-up training will be accomplished by videotape review.

2.3. Documentation. The AFORMS documents training for unit members. Use 944 FW Form 6, **AFORMS GROUND TRAINING** as source documents.

2.4. Make-up Training:

2.4.1. Ground Training. Training periods during the year are extremely limited, and it is important that all pilots attend UTA training sessions. However, it is also necessary to reschedule UTAs for individuals with problems regarding health, employment, etc. In order to accommodate these changes, ground training sessions will be videotaped to facilitate makeup training. The tapes will be viewed during the first period worked after the UTA, and before flying, unless waived by the operations officer or designated representative.

2.4.2. When squadron members make up their UTA, they will report to the training officer or the ART representative who will monitor the make-up training and ensure that it is accomplished/documented.

2.5. Functional Training:

2.5.1. Training Requirements: Table 2.1

2.5.2. Documentation of Training: AFORMS.

2.5.3. Method of Accomplishment:

2.5.3.1. Self-aid and Buddy Care. Initial training is given in the unit and recurring training is given every two years. Topics covered include first-aid training.

2.5.3.2. Chemical Warfare (CW) Training:

2.5.3.2.1. Initial Chemical Warfare Ground Training. This training is required for all personnel who are deployable to a chemical high threat area. Required ground training is taught by 944 CE/CEX within 120 days of Mission Ready (MR) Certification. Topics covered include M-17 series mask, ground crew ensemble, chemical threat, decon/antidote procedures, etc.

2.5.3.2.2. Initial CW Flight. 302 FS/DOT will schedule all pilots for a flight in CW gear if not previously qualified. Initial CW Aircrew Ensemble training will be conducted prior to 1st Flight, and IAW AFI 11-2F-16V1, Chap 4.15.

2.5.3.2.3. Initial CW Aircrew Ensemble. One-time training given by 302 FS/DOL, prior to 1st flight.

2.5.3.2.4. Continuation CW SEPT and CW Egress/Hanging Harness. This training is accomplished during 302 FS/DOL training and is required annually.

2.5.3.2.5. Chemical Warfare Defense Exercise. This training is required for all squadron personnel, and is usually conducted during the annual Operational Readiness Exercise (ORE). It

simulates a deployment to a chemical high threat area. It is conducted by the 944 OG/CC, and exercises all group agencies. The annual unit CW exercise is an integral part of this unit's combat environment training and will be used to conduct the necessary continuation training on decon procedures. Individuals who miss the mass decon line will be processed individually by life support on the first make-up period of the UTA that training was held, unless exception is allowed by the operations officer.

2.5.3.3. Weapons/Tactics Academics and Testing. Weapons academics will cover a broad spectrum of topics (Reference AFI 11-2F-16V1, Chap 4.2.6.) and will test pilots annually with a required score of 85% or better to pass.

2.5.3.4. Verification. Initial verification is required within 180 days of MR certification. Continuation verification will be completed every 18 months. Pilots who participate in a Checkered Flag deployment may receive credit for Continuation Training (CT) verification.

2.5.3.5. Intelligence. Reference Table 2.1.

2.5.3.6. Handgun Training. 9mm handgun training is on a two year currency. If an individual is not qualified, or is preparing to deploy to an overseas location, 302 FS/DOT will schedule them for training.

2.6. Pilot Training:

2.6.1. Training Requirement. Table 2.1

2.6.2. Documentation of Training AFORMS. The 302 FS/CCE will document all general training.

2.6.3. Method of Accomplishment and Course Content:

2.6.3.1. Supervisors Safety Training. Conducted monthly by 944 FW/SE for all NCOs, Sgts, and SrAs in supervisory positions; 2nd and 1st Lieutenants at their first base of assignment, and all first level supervisors who have not previously attended. Topics covered
include supervisory responsibility for providing safe and healthful working conditions in their areas.

2.6.3.2. Flying Safety Training. Reference Table 2.1.

2.6.3.3. SEPT. Prescribed in Chapter 7, this instruction.

2.6.3.4. Life Support Training. See Table 2.1.

2.6.3.5. Crew Resource Management (CRM). See Table 2.1.

2.6.3.6. Simulator (MTT) Training Sorties. Reference Table 2.1 and Chapter 7.

2.6.3.7. Social Actions.

2.6.3.8. Stanardization/Evaluation (Stan/Eval) Training/Requirements. This section contains all Stan/Eval requirements. 944 OG/OGV, in coordination with 302 FS/DOS, schedules all pilots for these requirements and tracks their completion. 944 OG/OGV schedules annual Instrument Refresher Course (IRC) in conjunction with 302 FS/DOT. IRC training is to be completed during the first quarter of the calendar year. A combination of video tapes and classroom instruction may be utilized. The training officer will retain the video tapes for one year for pilots to accomplish make-up training. The training officer will provide 944 OG/OGV with attendance information and IRC accomplished dates.

2.6.3.9. Physiological Training and Requirements:

2.6.3.9.1. Centrifuge Training. The Air Force policy is that all F-16 pilots will complete this training. The 302 FS/DOT will schedule pilots who arrive without this training documented on their AF Form 702, **Individual Physiological Training Record (PA)**.

2.6.3.9.2. Combat Edge Training. All F-16 pilots will accomplish this training. Ground training will be conducted by 302 FS/DOL. Flight training will be in accordance with existing guidance and administered by a qualified Combat Edge trained pilot.

2.6.3.9.3. Flight Physicals. Physicals are scheduled on the morning of the UTA fly day, up to two months before the member's due date. Make-ups are scheduled on another UTA.

2.6.3.9.4. Altitude Chamber. Training should be scheduled at least three months prior to due date. Pilots will be scheduled individually and will be sent TDY to one of the various physiological training locations available. Documentation of training will be made by the Physiological Training Unit on the individual's AF Form 702, and in AFORMS. Reference Table 2.1.

2.6.3.10. Supervisor Of Flying (SOF) Exam/Refresher Training. All SOF qualified pilots will attend scheduled semi annual refresher training during UTA training. Accomplish make-up on the following UTA, or as soon as possible. Thereafter, 944 OG/CC is responsible for documenting training accomplishments.

2.7. Awareness Training:

2.7.1. Training Requirements. Table 2.1

2.7.2. Documentation of Training. Formal documentation of these items is not required.

2.7.3. Method of Accomplishment and Training Content. Awareness training is conducted informally through newspaper articles, bulletin boards, commanders' calls, posters, read-and-sign items, etc.

2.7.3.1. Protection of the President. Given prior to presidential visits.

2.7.3.2. Standards of Conduct. Ethical standards of conduct, conflict of interest laws, and reporting requirements.

2.7.3.3. US/USSR Prevention of Dangerous Military Activities.

2.7.3.4. Law of Armed Conflict. Briefing presented annually by 944 FW/JA at 944 OG Commanders call. Topics covered include law of war, legal weapons, subjects of lawful attack, and captured/detained personnel.

2.7.3.5. Code of Conduct.

TABLE 2.1 AIRCREW ANCILLARY/GROUND TRAINING

CATEGORY I - MOBILITY TRAINING				
Training Requirement	**Applicable Directive**	**Applicable To:**	**Freq. of Trng.**	**OPR Resp. For Trng.**
Self-Aid and Buddy Care Training	AFI 36-2238	All on Mobility	1/2 YR	SG
Initial Chemical Warfare Defense Training - Ground Crew Ensemble	AFI 32-4001 AFI 32-4002	All on Mobility	Initial	CEX
Initial Chemical Warfare Defense Training - Pilot Ensemble	AFI 11-2F-16V1, Chap 4	All on Mobility	Prior to 1st CW Flight	DOL
Annual Chemical Warfare Defense Continuation Training - Aircrew Ensemble	AFI 11-2F-16V1	All on Mobility	1/YR	DOL
Weapons and Tactics Training	AFI 11-2F-16V1	Pilots	1/MO	DOW
Weapons and Tactics Test	AFI 11-2F-16V1	Pilots	1/YR	DOW
Verification - Initial Recurrency	AFI 11-2F-16V1	Pilots	1/18 MO	DOW/DOT
Intelligence ISO PREP Card, Intel Test, EC Training, Threat Knowledge, Visual Recognition, RWR Training, Counter-Measures, SERE Collect & Report	AFI 11-2F-16V1	Pilots	1/YR	IN
Hand Gun Training	AFI 36-2226	Pilots	2 YRS	DOT

TABLE 2.1 AIRCREW ANCILLARY/GROUND TRAINING (Continued)

CATEGORY II - PILOT TRAINING				
Training Requirement	**Applicable Directive**	**Applicable To:**	**Freq. of Trng.**	**OPR Resp. For Trng.**
Physiological Training (Altitude Chamber)	AFI 11-403	ALL	3/YR	
Supervisors Safety Training	AFI 91-301	Supervisors	1	SE
Flying Safety Training	AFI 91-301	Pilots	1/QTR	OG/SE
Situational Emergency Procedure Training (SEPT)	AFI 11-2F-16V1, Chap 4	Pilots	1/MO	DOT/OGV
Life Support Training a. Egress Training (Ejection) b. Hanging Harness Training (Ejection) c. Life Support Equipment Training d. High Threat Combat Survival Training (HTCST) e. Low Threat Combat Survival f. Water Survival Training	AFI 11-301	Pilots	 180 Days 180 Days Annually Biennial Biennial	DOL
CRM	AFI 11-2F-16V1	Pilots	Annually	DOT/OGV
Simulator (MTT) Training Sorties	AFI 11-2F-16V1	Pilots	4 Per Year	DOT
Instrument Refresher	AFPD 11-4 AFI 11-401	Pilots	Periodic	OGV
Social Actions	AFI 36-2701	ALL	Initial/ 4/YR	SA
Stan/Eval Mission Evaluation Mission EPE INST/QUAL Evaluation INST/EPE Closed Book Exam Open Book Exam Annual IRC INST/EXAM Initial IP Check	AFI 11-401	Pilots	 1/17 MO 1/17 MO 1/17 MO 1/17 MO 1/17 MO 1/17 MO 1/12 MO 1/12 MO 1	OGV

TABLE 2.1 AIRCREW ANCILLARY/GROUND TRAINING (Concluded)

CATEGORY III - AWARENESS PROGRAM TRAINING ***NOTE*: These programs are conducted informally through newspaper articles, pamphlets, bulletins, and CC calls**				
Training Requirement	**Applicable Directive**	**Applicable To:**	**Freq Of Trng**	**Opr Resp. For Trng**
Protection of the President	AFI 71-101V1	ALL	A/R	JA
Standards of Conduct	DOD 5500.7-R	ALL	1/YR	JA
US/USSR Prevention of Dangerous Military Activities	JCS MOP #2	ALL	Initial PreDeploy	JA
Law of Armed Conflict	AFI 51-401	ALL	A/R	JA
Protection from Terrorism		ALL	1/YR	SP
Code of Conduct	AFI 36-2209	ALL	Biennial	IN

Chapter 3

INITIAL QUALIFICATION TRAINING

3.1. Local Pilot Upgrade. Conduct local pilot upgrade/recurrency training as prescribed in AFI 11-2F-16V1, this instruction, and, when applicable, selected ACC syllabi. Upgrade training will be conducted to the highest combat capability supportable by sortie rate and in the minimum practical time. Requalification training is applicable to pilots whose flight currency has not exceeded 18 months in the F-16 aircraft unless HQ AFRC grants a waiver. Upon completion, each pilot will be fully qualified in the F-16 aircraft, and will then enter Mission Qualification Training (MQT). Initial Qualification Training (IQT) will be conducted at formal training units if at all possible (see Table 3.1).

3.2. Training Requirements. The 302 FS/DOT determines upgrade requirements for each pilot according to instructions based upon previous qualifications and date of last flight. The operations and training officer reviews training folders, Replacement Training Unit (RTU) records, flight time records, weapons currency records, and the FEF. The data obtained from these sources will be used to validate qualifications and establish the training entry level.

3.2.1. In-Processing. The newly assigned pilot completes and submits the following forms to the 302 FS/DOT prior to beginning academic/flight training: Requirements to Fly Worksheet, and AF Form 883, **Privacy Act Statement - US Air Force Application Record**.

3.2.2. Ground Training. Assign each pilot a primary flight instructor and academic instructor. The primary flight instructor oversees the UP's overall program and flies with him on the first three sorties (TR-1 through TR-3) if in a 180 day plus recurrency or complete IQT program.

3.2.2.1. Academics. Different personnel may administer academics, however, the primary academic instructor ensures that continuity and quality of instruction are maintained. Pilots in re-qualification training may validate blocks of instruction by passing a written test on that section (See AFI 11-2F-16V1)**.** Local area procedures and squadron standards will be included in this instruction. Initial weapons and tactics testing also take place during this phase.

3.2.2.2. Life Support Training. All life support training/issue of Personal Equipment (PE) gear must be completed prior to the first flight.

3.2.2.3. SEPT Training. Accomplish SEPT training as prescribed in AFI 11-2F-16V1. Use the MTT for instruments/emergency procedure review.

3.2.3. Flying Training. Accomplish flying training as prescribed in AFI 11-2F-16V1**.** Track all IQT accomplishments on the IQT program work sheet.

3.3. Nonpilot Crew Flying Training. Flight Surgeons/Ground Liaison Officer (GLOs)/Army Liason Officer (ARLOs) may be authorized flight status in the F-16D. Specific training requirements are listed in AFI 11-401, *Flight Management* and AFI 11-2F-16V1. Weapons

Systems Officers (WSO)/Electronic Warfare Officers (EWO) and rated Life Support Officers (LSO) assigned to the squadron will follow the same procedures outlined for flight surgeons.

3.3.1. Use the following procedures to implement the training program:

3.3.1.1. Academic Instructor. The 302 FS/DOT identifies the academic instructor for requisite academics.

3.3.1.2.. Academic Agenda. Academics include engine, fuel system, electrical system, flight controls, hydraulic systems, avionics systems interface, environmental control system, and F-16 flight characteristics. Modify academic material/depth to cover what is pertinent as a nonpilot crewmember. Upon completion of the academic program, accomplish the closed book Flight Surgeon Test. This test is unit generated and will be administered and graded by 944 OG/OGV; accomplish prior to the first flight. The minimum passing score is 85 percent corrected to 100 percent.

3.3.1.3. Life Support. Life support issues PE gear and conducts hanging harness, egress, and other life support training, as required, before the first flight.

3.3.1.4. SEPT. Accomplish a one hour instrument/emergency procedures MTT that is supervised by an instructor pilot prior to flight training.

3.3.2. Flight Training:

3.3.2.1. First Flight. The first flight will be flown with an Instructor Pilot (IP), squadron supervisor, or flight lead.

3.3.2.2. Brief. As a minimum briefing will stress local area procedures, unit standards, instrument interpretation, aircraft performance envelope, and the flight profile.

3.3.3. Documentation:

3.3.3.1. Additional Training. Clearance for the individual to fly subsequent flights unrestricted or with requirements to fly additional sorties with an IP/flight lead or recommendations for specific remedial training/flight restrictions will be documented on the flight surgeon/EWO/LSO flight training work sheet.

3.3.3.2Computer Documentation. The individual's flight training worksheet is maintained in their folder by the 302 FS/DOT until it is documented in the computer program as prescribed in ACCR 50-31, *Training Records and Performance Evaluation in Formal Training Programs.*

3.3.3.3. Life Support Training. Life support training will be documented on an AF Form 1522, **Additional Training Accomplishment Input**. Upon completion of training, the original will be forwarded to the unit training branch for input into AFORMS. A duplicate copy of the AF Form 1522 is kept by these unit aircrew life support section IAW AFMAN 37-139, Vol II. Instructors

will provide written documentation to individuals who are from other units (i.e., IG, higher headquarters staff, and visiting aircrews) so their records can be updated at home station.

3.4. Training Folder Instructions. Examples of grade sheets used for IQT, MQT, and specialized upgrade training are contained in the sample training folder in the training file. Blank grade slips are available in the training office.

3.4.1. Location. Training folders are centrally located in the 302 FS/DOT and readily available for review by supervisory personnel, instructors, and individual pilots. Individual pilots are ultimately responsible for the upkeep and currency of their folder.

3.4.2. Preparation. Prepare pilot training folders using a five-section folder to match the format of the sample grade book found in the training file.

3.4.3. Training Folder Review. Supervisors review the training folders and initial the review certification on the flying upgrade program cover sheet prior to the pilot's first flight. Instructors review the training folders and initial the pilot information sheet prior to their first flight with the pilot. Instructors/flight leads who have not previously flown with a particular pilot review the training folder and the grade sheets.

3.4.4. Grade Sheet Completion. As operational upgrade training is conducted, complete an individual training mission grade sheet for each IQT, MQT, or continuation upgrade flying mission and designated simulator missions. File grade sheets in the individual training folder. Complete grade sheets as soon as practical after each mission but not later than one working day following the mission.

3.4.4.1. MTT Missions. Designated instructors/Stan/Eval Flight Examiners (SEFEs) complete a grade sheet for required graded simulator/MTT missions.

3.4.4.2. Grading Sections. Complete all items on the grade sheet or explain in the remarks section.

3.4.4.3. Grading Levels. The overall grade is a whole number. Comments are required for any overall grade of one or less.

3.4.4.4. Grading Continuity. Emphasis is placed on proper continuity between grades and remarks.

3.4.4.5. Video Tape Recorder (VTR) Review. Review VTR tapes on all graded missions.

3.4.5. Grading Criteria. Grading criteria for completion of grade sheets is standard among the IPs. The remarks section is used to record performance details and recommendations for improvement. It may include informal records of weapons scores, but the only official scores are those recorded on 302 FS Mission Ready Qualification Checklist.

3.4.6. Checkride. When a qualification/tactical evaluation (checkride) mission is flown and an AF Form 8, **Certificate of Aircrew Qualification**, is completed, annotate it on the mission recap sheet if the individual is in IQT/MQT upgrade training.

3.4.7. Work sheet Completion. Upon completion of each upgrade mission, IPs make an entry on the appropriate mission recap sheet and program work sheet. At the completion of flying upgrade training, 302 FS/DOT will make an entry on the program work sheet stating that training has been completed. If mission status changes, AFORMS information will be updated.

3.4.8. Disposition of Training Folder Contents. Maintain all grade folder documentation in accordance with AFMAN 37-139, *Records Disposition Schedule.*

3.5. 944 FW Requalification Training Syllabus:

3.5.1. MTT:

3.5.1.1 MTT (Cockpit Familiarization, 1:1 Ratio, 1.5 Hours). Mission Description: Cockpit interior checks (power off); before start checks; normal engine start checks; emergency engine shutdown procedures; landing checks; before engine shutdown checks; shutdown procedures; before leaving cockpit procedures; normal cockpit egress.

3.5.1.2 MTT-101 (Normal and Emergency Operations, 1:1 Ratio, 1.5 Hours).

3.5.1.2.1. Mission Objectives: Introduce engine start malfunctions; taxi malfunctions; ground emergencies; selected takeoff emergencies; in-flight emergencies emphasizing engine and electrical malfunctions; Instrument Landing System (ILS)/Limited Operational Capability (LOC) procedures; landing emergencies; low Runway Condition Reading (RCR) landing procedures.

3.5.1.2.2. Specific Mission Tasks: Engine starting malfunctions; after start checks; taxi; taxi malfunctions; takeoff emergencies; in-flight emergencies (engine and electrical malfunctions); wet or icy runway landing procedures.

3.5.1.3. MTT-102. (Emergency Procedures, 1:1 Ratio, 1.5 Hours).

3.5.1.3.1. Mission Objectives: Emergency procedure evaluation as prescribed by MCI 11-F16 Vol III, Administered by a SEFE as a prerequisite to TR-4 initial qualification checkride.

3.5.1.3.2. Specific Mission Tasks: Identify and respond to ground and in-flight emergencies/malfunctions. Instrument procedure evaluation to include ground operations, take-off/departure, cruise, and after landing procedures.

3.5.1.4. MTT-103 (Mission Evaluation Emergency Procedures, 1.1 Ration, 1.5 Hours)

3.5.1.4.1. Mission Objectives: Mission Procedures in Air-to-Air (AA) and Air-to-Ground (AG) scenarios with emergencies. Administered by a SEFE.

3.5.1.4.2. Specific Mission Tasks: Selected emergencies in a combat environment.

3.5.2. Flying Training General Instructions.

3.5.2.1. Incomplete Missions. Missions on which the Upgrading Pilots (UP) performance met acceptable standards but all mission items were not accomplished, may be designated as effective/incomplete if the omitted items can be performed on future missions with no degradation of training.

TABLE 3.1 INITIAL QUALIFICATION TRAINING (Re-qualification Training)

MTT-100	Cockpit Familiarization
MTT-101	Normal And Emergency Operations
MTT-102	Instrument/Emergency Procedures Evaluation
TR-1	Single-Ship Flight
TR-2	Two-Ship Basic Flight
TR-3	Two-Ship Initial Solo
TR-4	Two-Ship Stan/Eval Initial Qualification/Instrument Evaluation
TR-6	Single/Two-Ship Night Sortie

3.5.2.2. Complete Missions. Once an event or task has been satisfactorily accomplished, it may be performed on subsequent missions.

3.5.2.3. Alternate Missions. Alternate mission profiles are limited to maneuvers, mission events, and/or mission profiles that have been flown on a previous syllabus training sortie.

3.5.2.4. G Awareness. Accomplish a "G" awareness exercise at the beginning of all tactical missions. The "G" awareness exercise, as described in the squadron standards, complies with all current Headquartes directives and is a required event on all applicable flights.

3.5.2.5. Air-to-Air Refueling (AAR). AAR may be flown any time after basic formation proficiency ("2" level) is achieved, and may be flown as often as resources allow.

3.5.2.6. Flight Briefings/IP Responsibility:

3.5.2.6.1. Briefing Responsibilities. Student pilots will not brief and lead syllabus missions except noted in 3.5.2.6.2. below. This restriction does not prohibit a student from briefing mission responsibilities. When the syllabus requires an IP chase or requires the student to fly lead position for a specified period, the student does not become a designated flight lead. The IP retains lead of the flight and overall responsibility for the conduct of the mission.

3.5.2.6.2. Student Brief. Students brief the practice checkride TR-3 and the checkride TR-4.

3.5.2.7. Proficiency. Wing formation takeoff, close formation, weapon system check, fence check, formation approach, instrument approaches, and Simulated Flame Outs (SFO) should be accomplished as often as necessary after being introduced to maintain proficiency in these tasks.

3.5.2.8. Solo Capability. TR-2 may be flown solo if proficiency so warrants and resources are available.

3.5.2.9. Minimum Approaches. Students will satisfactorily accomplish at least one Tactical Air Navigation (TACAN), one ILS, and one Precision Approach Radar (PAR)/Airborne Surveillance Radar (ASR) prior to the flight evaluation

3.5.2.10. Minimum SFO Patterns. Students will satisfactorily accomplish at least one SFO (either straight in or overhead) prior to being cleared solo.

3.5.2.11. Visual Meteorological Conditions (VMC) Clearance. Without a current F-16 instrument rating, solo students will fly VMC until successful completion of TR-4.

3.5.2.12. Requalification Sorties. Fly missions TR-2 and TR-3 for pilots requiring 91-180 day requalification training (from loss of landing currency). Fly missions TR-1, 2, 3, 4, and 6 for pilots requiring 181 days to 18 months requalification training.

3.5.2.1.3. VTR Assessment will be used on all missions in the 302 FS. The following items will be filmed as minimum, and assessed in debrief: tape title and alibis, G warm-up, all tactical portions of mission from IP to Target (AG) and from commit to engagement (AA). 944 FW Form 1, **Helyun VTR Assessment Record**, will be used.

3.5.3. Mission Scenarios:

3.5.3.1. TR-1. (Aircraft: F-16D; Time: 1.4; Crew: UP/IP).

3.5.3.1.1. Mission Objectives: Introduce the G warm-up/tolerance maneuver; avionics displays and functions; confidence maneuvers; advanced handling maneuvers; aerobatics; SFO approaches; Visual Flight Rules (VFR) patterns; ILS/PAR; and landings.

3.5.3.1.2. Specific Mission Tasks. Single-ship Military Power (MIL) takeoff, departure, enroute navigation, G warm-up/tolerance, performance demonstrations, confidence maneuvers, advanced handling maneuvers, aerobatics, unusual attitude recoveries, avionics orientation, Instrument Flight Rules (IFR) recovery, instrument approach, missed approach, SFO approaches, VFR patterns, touch-and-go landings, full stop landing.

3.5.3.2. TR-2 (Aircraft: Two F-16Cs; Time: 1.4; Crew: IP, UP).

3.5.3.2.1. Mission Objectives: Afterburner (AB) takeoff, join-up, basic formation, G warm-up/tolerance maneuver from line abreast formation, tactical formation, lost wingman exercise, formation instrument approaches, low approaches, and Heads Up Display (HUD)-out

approaches. Practice advanced handling, confidence maneuvers, aerobatics, VFR patterns and landings.

3.5.3.2.2. Specific Mission Tasks. SEC ground start; single-ship AB takeoff; join-up; basic formation practice (close, route, crossunders, echelon, pitchout-rejoin), lost wingman exercise, tactical formation; G warm-up/tolerance maneuver. Split into single-ships; confidence maneuvers; advanced handling maneuvers; aerobatics; instrument recovery and approaches; SFO; VFR patterns (at least one HUD-out); and landings.

3.5.3.3. TR-3 (Aircraft: Two F-16Cs; Time: 1.4; Crew: UP, IP [chase]).

3.5.3.3.1. Mission Objectives. Reviews ride in preparation for TR-4 (student brief); introduce solo flight.

3.5.3.3.2. Specific Mission Tasks: Briefing; single-ship takeoff; Standard Instrument Djeparture (SID), navigation, basic and tactical formation, steep turns, nose-high recovery, aerobatics, advanced handling, Tactical Air Navigation (TACAN) holding, penetration and approach, ILS, PAR, SFO, and VFR patterns.

3.5.3.4. TR-4 (Aircraft: Two F-16Cs or one F-16D; Time: 1.4; Crew: UP, SEFE, or UP/SEFE).

3.5.3.4.1. Mission Objectives: Stan/Eval initial qualification/instrument evaluation to be flown according to MCI 11-F16V3, *Pilot Operational Procedures – F-16*.

3.5.3.4.2. Specific Mission Tasks: In addition to the requirements of AFI 11-2F-16V1, flight evaluations should include basic and tactical formation, rejoin, nose-high recovery, advanced handling, aerobatics, and a closed pattern.

3.5.3.5. TR-5 (Aircraft: Two F-16Cs or one F-16D; Time: 1.5; Crew: IP, UP, or UP/IP).

3.5.3.5.1. Mission Objectives: Introduce night flying, ground operations, air refueling, intercepts, formation, instrument approaches, and landings.

3.5.3.5.2. Specific Mission Tasks. Takeoff, trail departure, join-up, basic formation for each aircraft, No Radio (NORDO) formation signals and procedures, Night Air Refueling (NAAR), and intercepts. SPLIT: Instrument approaches, landings.

NOTE: Intercepts are optional but desired. TR-6 may be flown single-ship if in an F-16D. Night air refueling is desired but not required. Day air refueling is required first unless mission is flown in an F-16D.

Chapter 4

MISSION QUALIFICATION TRAINING (MQT) PROGRAM

4.1. General:

4.1.1. Objective. The objective of the 944 FW MQT Program is to train 302 FS F-16 pilots for the attainment of mission ready status in air-to-air and air-to-surface roles as tasked by higher headquarters. Pilots will upgrade through MQT as follows:

4.1.1.1. Ground Training. As prescribed in AFI 11-2F-16V1.

4.1.1.2. Simulator and Flying Training. As prescribed in AFI 11-2F-16V1.

4.1.1.3. Additional Flying Training. As determined by the squadron commander/operations officer to ensure accomplishment of MQT training.

4.1.2. Description. The MQT (flying) program consists of eighteen sorties plus a checkride, and is divided into air-to-air and air-to-surface phases. The air-to-air phase consists of twelve sorties ranging in difficulty level from Basic Fighter Maneuvers (BFM) to a 2v2 (D)ACT scenario. The air-to-surface phase includes seven sorties beginning with two-ship SA and culminating in a four-ship surface attack tactics flight evaluation (See table 4-1). The program is designed to confirm initial qualification training and provide exposure to more advanced missions as a prelude to continuation training. Each pilot must achieve performance standards prior to advancing to higher degrees of difficulty. Prior to beginning flight training in each phase, pilots will receive general briefings which cover phase objectives, employment techniques and procedures, common errors, rules of engagement, and safety considerations.

4.1.3. Guidance. The following guidance outlines the 944 FW MQT syllabus for MR certification at BMC. Execution of the training syllabus will produce an F-16 pilot with a minimum capability at CMR status.

4.1.3.1. Mission Statement. To attain MR status, a pilot must demonstrate proficiency in the phase objectives/standards outlined in this chapter in addition to complying with requirements set forth in AFI 11-2F-16V1. Mission objectives define a level of accomplishment necessary to fulfill the DOC statement. Wingmen are required to meet all those mission objectives pertaining to tasks that are not solely the responsibility of the flight lead.

4.1.3.2. Screening Procedures Prior to MQT:

4.1.3.2.1. Screening Committee. Each pilot's formal course grade book, flying background, and past performance is evaluated on an individual basis by a unit screening committee which includes, as a minimum, squadron commander, operations officer, and training officer.

4.1.3.2.2. Committee Responsibilities. This committee of squadron managers is responsible for reviewing gained pilot's currencies such as AAR, day and night weapons delivery, landing, and formation landing prior to the first MQT flight.

4.1.3.2.3. Weapons and Tactics/Electronic Combat. Pilots normally demonstrate knowledge of penetration aids (ALE-40, ALQ-131, ALR-69, and ALQ-213) during their initial weapons and tactics test and must accomplish this test prior to SAT-2.

4.1.3.2.4. BFM Requirements. Squadron supervisors ensure that BFM/Aircraft Handling Characteristics (AHC) was completed in the formal course if SA is flown prior to BFM-1. Any IQT pilot not completing a formal course will accomplish BFM/AHC training prior to SA-1.

4.1.3.2.5. Local Area Orientation (LAO) Requirements. The first mission for pilots unfamiliar with the Luke AFB local flying area will be a LAO. The LAO should include familiarization with local procedures, local divert bases (Gila Bend AFAF, Davis Monthan AFB, Yuma MCAS), and the range complex. This ride and the local area briefing replace the Operational Flight Trainer (OFT) MQT-1 simulator outlined in AFI 11-2F-16V1. (May be combined with another sortie.)

4.1.3.2.6. Alternate Missions. Alternate missions or missions for student recurrency/proficiency are limited to repeat syllabus missions containing previously performed maneuvers.

4.1.3.2.7. Low-Altitude Requirements. MQT pilots must complete the objectives contained in this instruction for low-altitude maneuvering and limited communications familiarization on the first MQT sortie containing a low-level profile (normally SA-1). This training begins above 500 feet Above Ground Level (AGL) and throughout MQT is limited to 500 feet AGL.

4.1.3.2.8. Tailored Syllabus. After considering all factors pertaining to a pilot's ability, the unit's screening committee tailors an individual's syllabus by deleting/adding events and/or sorties, and changing configuration requirements to MQT syllabus missions.

4.1.3.2.9. Supervision. A squadron supervisor or instructor pilot is required on all MQT sorties per AFI 11-2F-16V1.

4.1.3.2.10. Deficiencies. If IPs identify problem areas with a particular MQT pilot, or if squadron supervisors recognize deficiencies through training folder reviews, IP continuity should be established and maintained until proper progression is achieved.

4.1.3.2.11. Minimum Altitude. Minimum altitude for all (D)ACBT is 5,000 feet AGL.

4.1.3.2.11.1. Dissimilar Assets. Use dissimilar aircraft on air-to-air sorties consistent with their availability. Dissimilar aircraft may be substituted for any F-16 as mentioned in the scenarios listed in this chapter.

4.1.3.3. Ground Training:

4.1.3.3.1. Academic Training. Conduct academic training using all available reference material, such as aircraft specific and generic tech orders; fighter weapons school texts/handouts; MCM 3-3, Vol 5, and MCM 3-1, Vol 5; and locally developed blocks of instruction. The academic program will be tailored to individual requirements based on experience, background, and flight continuity.

4.1.3.3.2. SEPT Training. MTT-103, Tactical Emergency Procedures Evaluation, is required for a pilot to become MR. This is in addition to MTT-102, Instrument Emergency Procedures Evaluation, administered with IQT program. If the pilot did not go through local IQT, the individual must have a current instrument rating to be MR.

4.1.3.3.3. MTT 103 (1:1 Ratio, 1.5 Hours) Mission Description. (Mission Evaluation) Emergency procedures check to satisfy the requirements of AFI 11-2F-16V1**.** Administered by Stan/Eval as a requisite to the mission evaluation, it consists of identification and response to selected ground and in-flight emergencies.

4.1.3.4. Electronic Warfare Training:

4.1.3.4.1. Syllabus. The MQT syllabus, as written, fulfills the requirements of AFI 11-2F-16 V1.

4.1.3.4.2. Sorties. The specific missions which fulfill electronic warfare training are designated in the MQT syllabus as MQ/AA-3 and 5, and MQ/SAT-1 and 2.

4.1.3.5. Evaluation/Certification:

4.1.3.5.1. Profile. The initial MR standardization and evaluation profile evaluates tasks required by the unit DOC statement and will be administered as prescribed in AFI 11-2F-16V1**.**

4.1.3.5.2. Certification. Prior to certifying a pilot MR, the squadron commander/operations officer ensures that currencies and requirements listed in AFI 11-2F-16V1, are completed.

4.1.4. VTR Assessment will be used on all missions in the 302 FS. The following items will be filmed as minimum, and assessed in debrief: tape title and alibis, G warm-up, all tactical portions

of mission from IP to Target (AG) and from commit to engagement (AA). 944 FW Form 1 will be used.

TABLE 4.1 MISSION QUALIFICATION TRAINING SORTIES (Recommended Flow)

MTT-103	MTT	Mission Procedures Emergency Eval
MQ/BFM-1	2 F-16s	Offensive Basic Fighter Maneuvers (BFM)
MQ/BFM-2	2 F-16s	Defensive BFM
MQ/BFM-3	2 F-16s	High Aspect BFM
MQ/BFM-4	2 F-16s	High Aspect BFM
MQ/AI-1	2 F-16s	1 V 1 Intercepts
MQ/ACM-1	3 F-16s	Offensive Air Combat Maneuvers (ACM)
MQ/ACM-2	3 F-16s	Defensive ACM
MQ/AI-2	3 F-16s	1 V 2 Intercepts
MQ/AI-3	4 F-16s	2 V 2 Intercepts
MQ/ACT-1	4 F-16s	Offensive Counter Air (OCA) - Sweep
MQ/ACT-2	4 F-16s	Defensive Counter Air (DCA) - CAP
LAT-1	2-4 F-16s	500' A/G Low Altitude Checkout (LOWAT)
MQ/SA-1	2-4 F-16s	Surface Attack
MQ/SA-2	2-4 F-16s	Surface Attack
MQ/SA-3	2-4 F-16s	Surface Attack
MQ/SA-4	2-4 F-16s	Surface Attack
MQ/SAT-1	2-4 F-16s	Surface Attack Tactics
MQ/SAT-2	2-4 F-16s	Surface Attack Tactics
MQ/TAC CK	2-4 F-16s	Surface Attack Tactics Qualification CK

4.2. 944 FW Air-to-Air MQT Syllabus:

4.2.1. Air-to-Air (A/A):

4.2.1.1. A/A Mission Objectives (General):

4.2.1.1.1. Situational Awareness. Demonstrate ability to recognize when offensive, neutral, or defensive against single or multiple bandits, and take appropriate action.

4.2.1.1.2. Performance as Element Member. Be able to perform as an active member of an element while intercepting, engaging, and separating from a maneuvering bandit.

4.2.1.2. A/A Mission Standardization (General):

4.2.1.2.1. Offensive BFM. In offensive BFM, achieve a valid kill on the bandit using correct weapons switchology and valid weapons parameters; as a minimum, control the bandit by maintaining a positional/energy advantage.

4.2.1.2.2. Defensive BFM. In defensive BFM, deny the bandit a valid shot. Attempt to force the bandit neutral, and either separate or go offensive. As a minimum, deny a guns track or unobserved Fox II.

4.2.1.2.3. High-Aspect BFM. In high-aspect BFM, gain the advantage or separate before becoming defensive.

4.2.1.2.4. Engagement Parameters. Perch BFM. 9,000 feet/6,000 feet: 15,000-18,000 Mean Seal Level (MSL); 425 Knots minimum; 30 degrees angle off. 3,000 feet: same as above, except 300 Knots maximum. High Aspect BFM. 15,000 - 18,000 feet MSL; formation, 6000 - 9000 feet line abreast, airspeed as briefed. The IP will direct the formation with a turn away, and a subsequent turn back, to force a high aspect pass. A "Fights On" call will be made by the IP.

4.2.1.2.5. Ordnance. All A/A missions will carry the AIM-9M and the gun. If the AIM-9M fails, AIM-9P parameters will be used and mission effectiveness will be determined by the IP. Do not simulate all aspect AIM-9s unless an operative missile is carried. AIM-120s will be introduced during AI-3. Chaff/Flares are desired on all MQT sorties.

4.2.1.2.6. Element Integrity. Pilot must be able to maintain integrity/mutual support during intercept, engagement, and separation against a single bandit, and an element of two bandits.

4.2.1.2.7. Objectives Not Met. If a pilot does not meet these standards, the pilot must repeat the sortie.

4.2.1.3. Desired Learning Objectives (DLOs). Use the following DLOs for each engagement for the particular role established:

4.2.1.3.1. Offensive. Quickly achieve valid weapons parameters/kill. Maintain a positional/energy advantage. Other specific DLOs as briefed by the flight leader.

4.2.1.3.2. Defensive. Maintain a tally on the opponent. Deny attacker valid weapons parameters. Strive for energy advantage. Recognize the proper time/distance to extend/separate. Other specific DLOs as briefed by the flight leader.

4.2.1.3.3. Beyond Visual Range (BVR). Be able to utilize onboard radar, GCI, and/or wingman to engage bandit(s) from an offensive advantage. Once visual, revert to (a) or (b) above.

4.2.1.3.4. Mission Scenarios:

4.2.1.3.4.1. MQ/BFM-1 (1v1 OFFENSIVE BFM) (2 x F16C; time: 1.1; crew: IP, UP; configuration: clean, AIM-9M, Chaff/Flares:

4.2.1.3.4.1.1. Mission Objectives. UP will observe the briefing, inflight control, and debriefing of an offensive BFM mission. The UP will demonstrate effective 1v1 offensive maneuvering from a variety of visual perch setups.

4.2.1.3.4.1.2. Specific Mission Tasks. Formation takeoff, weapons system check, gun exercises, fence check, "G" awareness exercise, Within Visual Range (WVR) 9,000 feet/6,000 feet/3,000 feet perch setups for offensive BFM, missile/gun exercises, formation approach, overhead/closed pattern; full-stop landing. Switchology, weapons employment, and combat separations will be evaluated. IP will review cruise energy management modes (range, endurance, and home) and the gunsight.

4.2.1.3.4.2. MQ/BFM-2 (1v1 DEFENSIVE BFM) (2 x F16C; time: 1.1; crew: IP, UP; configuration: clean, AIM-9M, Chaff/Flares):

4.2.1.3.4.2.1. Mission Objectives. UP will observe the briefing, inflight control, and debriefing of a 1v1 defensive BFM mission. The UP will demonstrate effective 1v1 defensive maneuvering from a variety of visual perch setups.

4.2.1.3.4.2.2. Specific Mission Tasks. Formation takeoff, weapons system check, gun exercise (offensive then defensive), ranging exercise, fence check, "G" awareness exercise, and WVR 9,000 feet/6,000 feet/3,000 feet perch setups for defensive BFM against rear quadrant missile/gun attacks. Formation approach, overhead/closed pattern, and full-stop landing. IP will review Chaff/Flare employment considerations.

4.2.1.3.4.3. MQ/BFM-3 (1v1 HIGH ASPECT BFM) (2 x F16C; time: 1.1; crew: IP, UP; configuration: clean, AIM-9M, Chaff/Flares):

4.2.1.3.4.3.1. Mission Objectives. The UP will observe the briefing, inflight control, and debriefing of a high aspect BFM mission. High aspect considerations and maneuvers will be briefed. The UP will demonstrate proficiency in 1v1 maneuvering against a high aspect positioned bandit.

4.2.1.3.4.3.2. Specific Mission Tasks. Formation takeoff, weapons system check, tactical formation, gun exercises, fence check, "G" awareness exercise, WVR high aspect setups to employ BFM with all aspect ordnance, combat separations as required, recovery, SFO (if available), and full-stop landing.

4.2.1.3.4.4. MQ/BFM-4 (1v1 BFM) (2 x F16C; time: 1.1; crew: IP, UP; configuration: clean, AIM-9M, Chaff/Flares):

4.2.1.3.4.4.1. Mission Objectives. ***NOTE***. This mission is a review/evaluation of previously introduced scenarios. Evaluation points are:

4.2.1.3.4.4.1.1. Offensive 1v1 BFM. Kill the bandit, or maintain positional advantage, demonstrate correct switchology, and recognize valid weapons parameters.

4.2.1.3.4.4.1.2. Defensive 1v1 BFM. Deny the bandit valid shots, maintain a tally, effectively obtain/maintain an energy advantage, and separate or go offensive if presented the opportunity.

4.2.1.3.4.4.1.3. High Aspect 1v1 BFM. Maneuver to an offensive position while negating the bandits all aspect ordnance. As a minimum, maintain the neutral starting posture, or separate if required.

4.2.1.3.4.4.2. Specific Mission Tasks. Formation takeoff, weapons system check, gun/missile exercises, tactical formation, fence check, "G" awareness exercise, perch setups for offensive and defensive BFM, WVR high aspect setups against an all aspect threat, combat separations as required, recovery, and full-stop landing.

4.2.1.3.4.5. MQ/(D)ACM-1 (2v1 (+1) (D)ACM) (3-4 x F16C; time: 1.1; crew: IP, UP, MP; configuration: clean, AIM-9M, Chaff/Flares):

NOTE: (D)AI-1 will be flown before (D)ACM-1.

4.2.1.3.4.5.1. Mission Objectives. UP will observe the briefing, inflight control, and debriefing of a two-ship offensive post merge maneuvering mission. The UP will demonstrate effective two-ship fluid attack employment and mutual support. The UP will demonstrate successful disengagement/withdrawal maneuvering if mutual support is lost. The adversaries will employ two group formations to reinforce multi-bogey considerations.

4.2.1.3.4.5.2. Specific Mission Tasks. Takeoff, weapons system check, fence check, tactical formation, "G" awareness exercise, tactical intercept(s) to an offensive advantage, visual perch setups for offensive engagements, combat separations, and return to base (RTB) via tactical formation with defensive ranging. The IP will control the scenario by tasking the bandits for each engagement. Formation landing (if required).

4.2.1.3.4.6. MQ/(D)ACM-2 (2v1+1) (D)ACM): (3-4 x F16C, or dissimilar; time: 1.1; crew: IP, UP; configuration: clean, AIM-9M, Chaff/Flares):

4.2.1.3.4.6.1. Mission Objectives. The UP will observe the briefing, inflight control, and debriefing of a two-ship defensive post merge maneuvering mission. The UP will demonstrate effective two-ship fluid employment and mutual support from a defensive start. The UP will demonstrate successful disengagement maneuvering if mutual support is lost. The adversaries will employ two group formations to reinforce multi-bogey considerations.

4.2.1.3.4.6.2. Specific Mission Tasks. Takeoff, weapons system check, fence check, tactical formation, "G" awareness exercise, WVR and BVR defensive setups. The IP will control the bandit's maneuvering by specific tasking for each engagement. Formation landing (if required).

4.2.1.3.4.7. MQ/(D)ACT-1 (2v2 (D)ACT): (4 x F16C, or dissimilar; time: 1.1; crew: IP, UP, IP/FL, MP; configuration: clean, AIM-9M, Chaff/Flares; GCI: required):

NOTE: (D)AI-2 and 3 should be flown before (D)ACT-1.

4.2.1.3.4.7.1. Mission Objectives. The UP will observe the briefing, inflight control, and debriefing of an air-to-air Offensive Counterair (OCA) sweep mission. The UP will operate as an effective member of an element, and demonstrate an understanding of the OCA sweep role, commit, intercept and engagement considerations and techniques.

4.2.1.3.4.7.2. Specific Mission Tasks. Takeoff, weapons system check, fence check, "G" awareness exercise, and BVR setups to engagements using OCA scenarios. F-16s will use an Aim-9M load out. Bandits are normally rear hemisphere ordnance capable. Setups should include separate frequencies and full Ground Controlled Intercept (GCI). The IP controls the level of bandit maneuvering by engagement. Recovery, full stop landing.

4.2.1.3.4.8. MQ/(D)ACT-2 (2v2 (D)ACT) (4 x F16C, or dissimilar; time: 1.1; crew: IP, UP, IP/FL, P; configuration: clean, AIM-9M, Chaff/Flares; GCI: required):

4.2.1.3.4.8.1. Mission Objectives. The UP will observe the briefing, inflight control and debriefing of an air-to-air DCA mission. The UP will operate as an effective member of an element, and demonstrate an understanding of the Defense Counter Air (DCA) Critical Action Procedures (CAP)/Lane Defense mission, commit, intercept and engagement considerations and techniques.

4.2.1.3.4.8.2. Specific Mission Tasks. Takeoff, weapons system check, fence check, "G" awareness exercise, and BVR setups to engagements using DCA CAP/Lane Defense scenarios. F-16s will use an AIM-9M load out. Bandits will normally carry all-aspect Infrared (IR) missiles, however, all-aspect radar missiles may be introduced at the IPs discretion. Setups should include separate frequencies and full GCI. The IP controls the level of bandit maneuvering by engagement. Setups should include medium and short-range commits; recovery and full-stop landing.

4.2.2. Intercept ((D)AI):

4.2.2.1. Phase Objectives:

4.2.2.1.1. Radar Utilization. Be able to correctly utilize radar switchology and search techniques to detect targets at various altitudes, intercept geometries, and in various formations in both day/VMC and night/IMC conditions (simulated).

4.2.2.1.2. End Game Requirements. Against nonreacting targets, achieve valid AIM-120/AIM-9M launch parameters as prescribed in MCM3-1, prior to the bandit accomplishing the briefed objective (reaching a defined point/protected airspace, etc.).

4.2.2.2. Phase Tasks/Standards (General):

4.2.2.2.1. Training Flow. If conditions allow, (D)AI-1 should be accomplished prior to (D)ACM-1. (D)AI-2 and (D)AI-3 should be accomplished prior to (D)ACT-1.

4.2.2.2.2. Conversion. With operable radar, pilot is able to successfully convert against either low-altitude non-maneuvering bandit(s) or level two (2) maneuvering bandit(s).

4.2.2.2.3. Instrument Meteorological Conditions (IMC)/Night Conditions. In simulated or actual night/IMC conditions, the pilot is able to convert to an Inentify (ID)/weapons employment position against a non-maneuvering target using less than 60 degrees of bank/2Gs.

4.2.2.2.4. Switchology. The pilot is able to manage switchology, select appropriate weapons, and recognize launch parameters in a timely manner, while accomplishing a low-altitude conversion.

4.2.2.2.5. Situation Awareness. Pilots must demonstrate ability to maintain awareness and employ sound tactics during intercept, engagement, and separation against two bandits.

4.2.2.2.6. Objectives Not Met. If a pilot does not meet these standards, the sortie must be repeated.

4.2.2.3. Mission Scenarios:

4.2.2.3.1. MQ/(D)AI-1 (1v1 Intercepts): (F16C; F16D or 2 x F16C, or dissimilar; time: 2.0; crew: MP, UP/IP or IP, UP; configuration: clean/ centerline; AIM-9M, Chaff/Flares; GCI: if available):

NOTE: Fly before (D)ACM-1.

4.2.2.3.1.1. Mission Objectives. The UP will observe the briefing, inflight control, and debriefing of a single-ship intercept mission against a single bandit employing a variety of tactics. The UP will demonstrate proper radar employment and intercept execution.

4.2.2.3.1.2. Specific Mission Tasks. Introduce radar trail departure; weapons system check, enroute tactical formation, "G" awareness exercise, medium altitude intercepts to include head-on, front quarter, and beam setups; Visual Identification (VID) required on minimum of two intercepts; AIM-9M employment; gun employment; formation recovery, formation approach and full-stop landing.

4.2.2.3.2. MQ/(D)AI-2 (1v2 Intercepts): (4 x F16C, or dissimilar; time: 1.4; crew: UP, IP(chase), P, P; configuration: clean/centerline; AIM-9M, Chaff/Flares; GCI: required):

NOTE: Fly before (D)ACT-1; may be completed as three-ship.

4.2.2.3.2.1. Mission Objectives. The UP will observe the briefing, inflight control, and debriefing of a single-ship intercept mission against a two-ship of adversaries employing a variety of formations and tactics. The UP will demonstrate proper radar employment and intercept execution.

4.2.2.3.2.2. Specific Mission Tasks. Practice scramble (cocking, start, taxi, and takeoff); radar trail departure, weapons systems check, "G" awareness exercise, minimum of one snap-up and one look-down conversion (10,000 feet to 20,000 feet vertical displacement); detect, sort, target, and engage an adversary two-ship employing a variety or formations and tactics (splits, drags, beams, res cell, etc.); AIM-9M employment; gun employment; formation instrument approach, and landing.

4.2.2.3.3. MQ/(D)AI-3 (2v2 Intercepts): (4 x F16C, or dissimilar; time: 1.4; crew: IP, UP, P, P; configuration: clean/centerline; AIM-9M, Chaff/Flares; GCI: required):

NOTE: Fly before (D)ACT-1. MQ/AMRAAM-2 may be combined with this sortie.

4.2.2.3.3.1. Mission Objectives. The UP will observe the briefing, inflight control, and debriefing of a two-ship intercept mission against a two-ship of adversaries employing a variety of formations and tactics. The UP will demonstrate proper radar employment and intercept execution.

4.2.2.3.3.2. Specific Mission Tasks. Practice scramble (cocking, start, taxi, takeoff); radar trail departure, weapons systems check, "G" awareness exercise. Detect, sort, target and engage an adversary two-ship employing a variety of formations and tactics (splits, drags, beams, res cell, etc.). At the IPs discretion, AIM-120 employment against all-aspect adversaries may be introduced. Element communication, mutual support, effective targeting, AIM-9M employment, gun employment; instrument recovery, formations approach, and formation landing (if required).

4.3. 944 FW Air-to-Ground MQT Syllabus:

4.3.1. Surface Attack (SA):

4.3.1.1. Phase Objectives:

4.3.1.1.1. Scenarios. Surface attack scenarios may be flown in any order. Mission profiles may be altered to fit individual training requirements provided adequate supervision is maintained.

4.3.1.1.2. Low-Altitude Training. LASDT-A/S-1, 500 feet training, must be accomplished or waived prior to SAT-1. Pilot can fly to 500 feet during the SA phase when LAT-1 is complete. Pilot will be qualified to 500 feet at the conclusion of the MQT program.

4.3.1.1.3. Timing. Demonstrate proficiency/knowledge of timing control during a tactical low level to deliver ordnance within one minute of planned Time Over Target (TOT).

4.3.1.1.4. Event Qualification. Practice/ qualify in all weapon delivery events to include: Low Level Low Drag (LLLD), Low Angle High Drag (LAHD), Low Angle Low Drag (LALD), Dive Bomb (DB), Dive Toss (DTOS), High Altitude Dive Bomb (HADB), Visual Loft (VLOFT), Radar Loft (RLOFT), Low Angle Strafe (LAS)/High Angle Strafe (HAS), or as tasked by Headquarters or CMR tasking message.

4.3.1.1.5. Bombing Modes. Demonstrate an effective utilization of the different bombing modes to include Constantly Computed Impact Point (CCIP), Continuously Computed Release Point (CCRP), and DTOS.

4.3.1.1.6. Tactical Deliveries. Achieve desired weapons delivery parameters and target destruction in a tactical environment.

4.3.1.1.7. Threat Reactions. Demonstrate ability to maneuver correctly when a defensive reaction is needed. A single adversary is desired for threat reaction training on SA-3 and SA-4.

4.3.1.2. Range. Any controlled range.

4.3.1.3. Phase Tasks/Standards (general):

4.3.1.3.1. Event Qualification. With operable systems, upgrading pilots will be responsible for dropping qualifying bombs.

4.3.1.3.2. Objectives Not Met. If a pilot does not meet required standards or commits a dangerous pass, he must repeat the sortie.

4.3.1.4. Mission Scenarios:

4.3.1.4.1. MQ/SA-1 (2-4 x F16C; time 1.5; crew: IP, UP, IP, UP; configuration: exterior tank[s], six x BDU-33, 2Omm):

4.3.1.4.1.1. Mission Objectives. Introduce Low-Altitude Awareness Training (LAAT) and Low-Altitude Tactical Navigation (LATN); visual fix taking; surface attack computed weapons system checks; conventional weapons deliveries (DTOS, LAHD, LALD, LAS) utilizing CCIP, DTOS, and CCIP strafe mode. Review the cruise energy management modes (range, endurance, and home).

4.3.1.4.1.2. Specific Mission Tasks. Takeoff; weapons system check; "G" awareness exercise, LAAT to include sustained level turns, acceleration/deceleration exercise, ridge crossings; LATN; overfly/HUD updates, range entry; and conventional deliveries to include: LAHD, LALD, DTOS and LAS from the box/curvilinear pattern, RTB, overhead pattern, and landing.

4.3.1.4.2. MQ/SA-2 (4 x F16C; time: 1.5; crew: IP, UP, IP, UP; configuration: exterior tank[s], six x BDU-33, 20mm):

4.3.1.4.2.1. Mission Objectives. Introduce radar low-level flight planning; radar ground map scope tuning and interpretation; radar low-level flight techniques; radar fix taking and altitude calibrations; and use of Offset Aim Points (OAPs), radar, and conventional weapon deliveries.

4.3.1.4.2.2. Specific Mission Tasks. Takeoff; weapons system check; "G" awareness exercise, radar low-level; radar update; radar altitude calibration; range entry; and conventional deliveries to include: RLOFT, VLOFT, Long Range Dive Toss (LRDT), B/U DTOS, LLLD, Low Angle Bomb (LAB), LALD, and LAS from the box/curvilinear pattern. Time permitting, radar event familiarization to include use of Fixed Target Track (FTT), Direct Aim (DIR AIM), Doppler Beam Sharpening (DBS)/Offset Aim Point (OAP), CCRP, and VLOFT profile; RTB; and landing.

4.3.1.4.3. MQ/SA-3 (4 x F16C; time: 1.4; crew: IP, UP, IP, UP; configuration: exterior tank[s], six x BDU-33):

4.3.1.4.3.1. Mission Objectives. Introduce Low-Altitude Tactical Formation (LATF), (HADB), practice use of VIP/VRP/OAPs and tactical pop-up deliveries, practice updates and conventional deliveries as required.

4.3.1.4.3.2. Specific Mission Tasks. Mission planning; takeoff; weapons system check; "G" awareness exercise, fence check; LATN; LATF; low-altitude formation turns; defensive reactions; range entry; use of VIP/VRP/OAPs; conventional deliveries (HADB, DB), tactical pop-up deliveries for LAHD, LALD (with chase until cleared solo for pops); DTOS; pop HAS; RTB; and landing.

4.3.1.4.4. MQ/SA-4 (4 x Fl6(C/D); time: 1.4; crew: IP, UP, IP/FL, UP; configuration: exterior tank[s], six x BDU-33):

4.3.1.4.4.1. Mission Objectives. Practice three or four-ship LATN and LATF; practice deliveries as required for proficiency/qualification.

4.3.1.4.4.2. Specific Mission Tasks. Mission planning, takeoff, weapons system check, "G" awareness exercise, fence check, four-ship LATN, LATF, defensive reactions, range entry, conventional deliveries from box pattern/curvilinear/pop-up attacks as desired, use of CCIP/DTOS/CCRP/VIP as desired, tactical formation recovery, and landing.

4.3.2. Surface Attack Tactics (SAT):

4.3.2.1. Phase Objectives:

4.3.2.1.1. Mission Planning. Demonstrate proficiency in tactical mission planning.

4.3.2.1.2. Full-Scale Weapons Delivery (FSWD). Demonstrate a capability to operate with heavyweight FSWD combat loads (if available).

4.3.2.1.3. Interdiction/CAS. Demonstrate an understanding of generic interdiction and CAS tactics and techniques. Advanced OCA, SEAD, BAI, and Armed Recce tactics/techniques will be introduced in continuation training (CT).

4.3.2.1.4. First-Look Effectiveness. Demonstrate a capability to achieve desired weapons effects on a "first look" target.

4.3.2.1.5. Adversaries/Threat Reactions. Demonstrate ability to detect and respond to both surface-to-air, and stern only or all aspect air-to-air threats.

4.3.2.1.6. Two-Ship Attacks. Successfully coordinate two-ship elements attacking the same target.

4.3.2.1.7. High-Angle Strafe (HAS). HAS for familiarization only.

4.3.2.1.8. Low-Altitude Formation. Demonstrate tactical proficiency at 500 feet AGL.

4.3.3. Ranges:

4.3.3.1. Uncontrolled. A major objective of this phase is to work on unmanned tactics ranges.

4.3.3.2. Controlled. Use of tactical targets on controlled ranges is acceptable.

4.3.4. Phase Tasks/Standards (general):

4.3.4.1. Priority Tasks. Target destruction, mutual support, frag clearance, fuze arming and weapons effects, and survivability are the key measures of success in this phase of training. Brief safe escape envelopes on all sorties.

4.3.4.2. Objectives Not Met. If the element does not achieve the desired level of target destruction and survivability due to UP performance, the pilot will re-fly the sortie.

4.3.4.2.1. Mission Scenarios:

4.3.4.2.1.1. MQ/SAT-1 (2-4 x Fl6C; time: 1.3; crew: IP, UP, adversary opposition if available; configuration: exterior tank[s], six x BDU-33 or MK-82, or 2 x MK-84, Chaff/Flares):

NOTE: LASDT A/S-1, 500 feet checkout, should be accomplished prior to SAT-1.

4.3.4.2.1.1.1. Mission Objectives. Introduce high threat tactics in the low altitude ingress/egress environment; comm-out procedures/techniques; radar/visual lookout; defensive reactions to air-to-air and surface-to-air threats; tactical deliveries using a variety of 302 FS Warbook target area tactics; reattacks; HAS from wheel pattern; element coordination techniques should maximize mutual support, survivability, and target destruction; minimize potential flight path conflicts and loss of situational awareness; and FSWD if available.

4.3.4.2.1.1.2. Specific Mission Tasks. Mission planning, takeoff, weapons system check, "G" awareness exercise, Medium Altitude Terrain (MATF), LATF, LATN (comm-out); defensive reactions to air/surface threats, tactical ingress to target, multiple IP-to-target runs, HAS (fam only), tactical egress, tactical formation recovery, and landing.

4.3.4.2.1.2. Mission Qualification (MQ)/SAT-2 Unit Readiness Scenario, (4 x Fl6C; time: 1.3; crew: IP, UP, FL/IP, UP, adversary opposition if available; configuration: exterior tank[s], six x BDU-33/6 or MK-82, or two x MK-84, 2Omm, Chaff/Flares):

Note: LASDT A/S-1, 500 feet checkout, should be accomplished prior to SAT-1.

4.3.4.2.1.2.1. Mission Objectives. Mission planning for a high threat Unit Readiness scenario, demonstrate proficiency in FSWD operations, mission planning utilizing 302 FS Mission Planning Cell (MPC) products; four-ship ingress/egress with defensive threat reactions against air/surface threats; coordinated attacks of two separate elements on the same target; coordinated attacks using different tactics viable for high threat scenario; achieve "predicted damage" weapons effects on all "first-look" targets, and intelligence debrief following the flight.

4.3.4.2.1.2.2. Specific Mission Tasks. Mission planning, takeoff, "G" awareness exercise, MATF, LATF, LATN, defensive reactions as required, employment of sound tactics in the Unit theater of operations, recovery and landing. See 944 OG/OGV for Unit Readiness frag.

NOTE: The weapons and tactics test must be accomplished prior to flying SAT-2. See 302 FS/DOW for test.

4.3.4.2.1.3. MQ/MR Evaluation, Unit Readiness Scenario (Frag), (4 x Fl6C; time: 1.4; crew: SEFE, UP, 'IP/Flight Lead (FL), UP/Mission Pilot (MP), adversary opposition if available; briefer: SEFE; configuration: exterior tank[s], six x BDU-33 or MK-82, or 2 x MK-84, 2Omm, Chaff/Flares):

4.3.4.2.1.3.1. Mission Objectives. As directed by 944 OG/OGV and the Unit Readiness Scenario Frag. Tactical planning as appropriate for threats, target, and the number of F-l6s on the mission. The upgrading pilot should brief the fragged ordnance and demonstrate proficiency as a wingman in FSWD operations and interdiction tactics. Achieve "predicted damage" on a "first-look" target. Operate with an acceptable attrition rate.

4.3.4.2.1.3.2. Specific Mission Tasks. Formulate/coordinate a viable tactical plan utilizing the 302 FS Warbook, squadron standards, and MPC products. 302 FS/DOI Unit Readiness intelligence scenario products/inputs should be used in developing the tactical game plan. Employ tactical navigation/ formation to the target. Employ tactics learned in the SAT phase. Execute the plan. Effectively debrief intelligence with an in-flight and mission report. UP(s) will brief portions of this mission as directed by Flight Lead/SEFE.

Chapter 5

CONTINUATION TRAINING PROGRAM

5.1. General. This chapter contains those training programs to be used on a daily basis to maintain mission-ready status. The air-to-surface and air-to-air profiles begin with the assumption that MQT syllabus accomplishments have been met. Missions specified as Unit Readiness sorties will emphasize beddown base environment, on hand ordnance, and area wartime procedures. If a pilot regresses from MR status due to lack of RAP sorties, use weapons delivery sorties to regain status. Squadron CC/DO approval is required prior to entering training to regain MR status.

5.1.1. VTR Assessment.

5.1.2. VTR Assessment will be used on all missions in the 302 FS. The following items will be filmed as a minimum, and assessed in debrief: tape title and alibis, G warm-up, all tactical portions of mission from IP to target (AG), and from commit to engagement (AA). The Helyun VTR Assessment Form will be used.

5.2. Non-demanding Sorties and Squadron Restrictions:

5.2.1. Lapse of Currency. As prescribed in AFI 11-2F-16V1, no pilot shall participate in a demanding sortie after an extended period of nonflying, which is defined as 30 days. This corresponds with night landing currency. Squadron/Group supervisors will be responsible for ensuring that a pilot with a currency lapse will not fly a demanding sortie on their first flight back. NVG demanding sortie currency is in accordance with AFI 11-2F-16V1.

5.2.2. Non-demanding Sortie. A non-demanding sortie is instruments, AHC, conventional/curvilinear weapons delivery, intercepts and other low/medium threat events. Pop-ups, flight below 500 feet AGL and BFM will not be flown on non-demanding sorties. Use NVG-2 and NVG-4 profiles from NVG upgrade training for non-demanding NVG sorties.

5.2.3. Approved Alternate Missions. Low-level navigation above the higher of 500 feet AGL or pilots minimum altitude (more than one aircraft required), high- or low- altitude intercepts.

5.2.4. Altitude Restrictions. Pilots flying air-to-air Low Altitude Training (LOWAT) prior to formal LOWAT checkout are restricted to 1000 feet AGL; air-to-surface operations prior to formal low-altitude training are restricted to 500 feet AGL. Continuation training (CT) and MQT Air Combat Training (ACBT) floor with unlimited training rules are restricted to 5,000 feet AGL.

5.3. Phase Training:

5.3.1. Concept. In an effort to maintain a high degree of proficiency in each of the numerous missions assigned to the 302 FS, CT will be scheduled in a series of phases, each designed to maximize the training opportunities and intended to exercise systematically the squadron's

required tactical skills.

5.3.2. Training phases. Air-to-surface phases are: SA, CAS, MAV, SAT-OCA/SEAD, SAT-BAI/RECCE, MTT, MAROPS. Air-to-air phases are: BFM, ACM, INT, DACT-OCA, DACT-DCA.

5.3.3. Scheduling. Phase training flow and scheduling will be determined with inputs from operations, weapons, and scheduling, and published as part of the squadron's annual training plan. 302 FS/DO will coordinate updates/changes to the training plan with 302 FS/DOW and 302 FS/DOO to allow the rescheduling of adversaries, Echo row, ranges, etc.

TABLE 5.1 CONTINUATION TRAINING SCENARIOS

SA-1	2-4 F-16s	Basic Weapons Delivery
SA-2	2-4 F-16s	Advanced Weapons Delivery
MAV-1	2-4 F-16s	Basic Maverick
MAV-2	2-4 F-16s	High Threat Maverick
SAT-1	2-4 F-16s	Low Threat Offensive Counter Air Interdiction
SAT-2	2-4 F-16s	Airfield Attack
SAT-3	2-4 F-16s	Suppression Of Enemy Air Defenses (SEAD)
SAT-4	2-4 F-16s	High Threat Offensive Counter Air Interdiction
SAT-5	2-4 F-16s	Low/High Threat Battle Area Interdiction (BAI)
SAT-6	2-4 F-16s	Armed Reconnaissance (Killer Scout)
SAT-7	2-4 F-16s	Hunter Killer (Requires Wild Weasel)
MAROPS	2-4 F-16s	Joint Maritime Operations (JMO)
CFT	2-4 F-16s	Composite Force Training (CFT)
CAS-1	2-4 F-16s	Close Air Support (CAS) - Low Threat
CAS-2	2-4 F-16s	Close Air Support (CAS) - High Threat
CSAR	2-4 F-16s	Combat Search And Rescue (CSAR)
CWD	1-2 F-16s	Chemical Warfare Operations
BFM-1	1v1	Offensive BFM
BFM-2	1v1	Defensive BFM
BFM-3	1v1	High Aspect BFM
ACM-1	2v1	Air Combat Maneuvers (ACM) Basic
ACM-2	2v1+1	Air Combat Maneuvers Advanced
OCA-1	2/4vX	Offensive Counter Air (OCA) Sweep Tactics
OCA-2	2/4vX	OCA Escort Tactics
DCA-1	2/4vX	Defensive Counter Air (DCA) Cap Tactics
DCA-2	2/4vX	DCA Lane Defense Tactics
AI-1	1v1/2	Medium And High Altitude Intercepts
AI-2	1v1/2	Low Altitude Intercepts
AI-3	2v2/4	Tactical Intercepts
NAI-1	1/2v1	Night Medium and High Altitude Intercepts
NVG-3	4 F-16s	Element Intercepts
NVG-5	2 F-16s	Element Attacks

5.4. Surface Attack.

5.4.1. Special Instructions:

5.4.1.1. Scenarios. The squadron's weapons officer and training officer work in conjunction with the Operations officer to establish and schedule training "phases" in accordance with the annual training plan.

5.4.1.2. Planning. Mission planning by all flight members, especially target area, route study, and target egress, is the key to force survival and first-pass target destruction. Frag clearance should be briefed on all surface attack profiles.

5.4.1.3. VTR Utilization. The VTR program provides immediate feedback, reinforces lessons learned, and improves the accuracy of debriefings. It is the pilot's responsibility to use it on each mission.

5.4.1.4. Adversary Assets. Adversary aircraft are necessary for realistic training and will be used, consistent with their availability, to improve visual lookout, threat awareness, and threat reactions.

5.4.1.5. Element Integrity. Since the two-ship and four-ship are generally considered to be the basic fighting element/flight, all surface attack missions are planned as two- or four-ships. Alternate missions may be flown with odd numbers provided it has been briefed. Single-ship surface attack missions are restricted to controlled ranges (this assumes the pilot is MR). Tactics range single-ship operations are permissible if flown with an IP in the F-16D model.

5.4.1.6. Scenarios. Surface attack scenarios may be flown in any order provided adequate supervision is maintained on "first-look" events: Mission profiles may be altered to fit individual training requirements (table 5.1).

5.4.1.7. FSWD. Full-scale weapons delivery may be accomplished on any of the CT mission profiles to appropriate ranges.

5.4.1.8. Flight Lead Options. At the flight lead's discretion, munitions listed under special briefing items for the mission profiles may be replaced with other simulated ordnance loads. This applies to any part of the scenario unless the scenario is in concert with an Air Tasking Order (ATO).

5.4.1.9. Clearing Passes. Clearing passes on Class B and C ranges are required as prescribed in AFI 11-2F-16V1.

5.4.1.10. Aircraft Assets. Utilize Have Quick, KY-58, Mode IV, TOT clock, IFF, and safe passage procedures as deemed appropriate for the scenario, or if tasked by the ATO.

5.4.2. Scenarios:

5.4.2.1. SA-1 (2-4 x F-16s - basic weapons delivery):

5.4.2.1.1. Mission Objectives. Practice low/medium-altitude navigation and formations in a low-threat environment. Practice radar, box, curvilinear, or pop-up patterns and conventional deliveries on a controlled range. Use of computed systems is primary with manual as a back up.

5.4.2.1.2. Specific Mission Tasks. Formation takeoff; low or medium-altitude ingress; tactical formation, threat identification, and initial moves; TOT compliance (+/- 2 minutes); radar and/or conventional weapons patterns and deliveries; and weapons delivery error analysis. Recognize potential dangerous situations during weapons deliveries and proper corrective actions.

5.4.2.1.3. Specific Briefing Items. M904E2/3 preflight, safety features, and fuse arming; MK-82LD preflight and Stores Management System (SMS) loading; formation responsibility/priorities; RWR, radar, chaff/flare settings; category/carriage/employment/jettison limits for appropriate configuration; threat reactions; arming delay; safe escape/frag pattern considerations for a MK-82LD; and available options for a hung/no release MK-82LD.

5.4.2.2. SA-2 (2-4 x F-16s - advanced weapons delivery):

5.4.2.2.1. Mission Objectives. Practice low/medium-altitude navigation, formations, and threat reactions in a high-threat environment. Practice Warbook attacks and advanced tactical deliveries (such as CCRP toss and long-range DT) on a controlled range. Practice element attacks on random targets.

5.4.2.2.2. Specific Mission Tasks. Formation takeoff, low or medium-altitude ingress, tactical formation, threat reactions during ingress, advanced tactical deliveries from controlled range patterns, and Warbook attacks against tactical targets on the controlled range, error analysis.

5.4.2.2.3. Special Briefing Items. FMU54A/B and M904E2/3 preflight, safety features and fuse arming, MK82AIR preflight and SMS loading, formation responsibilities and priorities, RWR/radar/chaff/flare settings, category/carriage/employment/jettison limits for four MK-82AIR and appropriate configuration; arming delay/safe escape/frag pattern considerations for a MK-82AIR, target separation, and time/altitude/spacing requirements during Warbook attacks, mutual support, escape maneuver, egress, and use of pilot selectable (Low Drag (LD) vs. High Drag (HD) modes.

5.4.2.3. MAV-1 (2-4 x F-16s - basic Maverick):

NOTE: Maverick passes with a live missile are restricted to on-range operations only.

5.4.2.3.1. Mission Objectives. Practice Maverick systems check bore sight, and switchology. Practice roll-in, tracking, lock-on, and Maverick launch (actual or simulated) against targets of varying type and contrast Electro-Optical (EO)/IR).

5.4.2.3.2. Specific Mission Tasks. Missile ground checks, trail departure, airborne missile bore sight, and simulated/actual deliveries on targets of varying type and contrast.

5.4.2.3.3. Special Briefing Items. AGM/TGM-65 A/B/D/G preflight; missile ground check procedures; missile bore sight techniques; contrast and target size requirements; effects of sun angle, G-bias, weather, and terrain on attack axis/launch parameters; switchology; good lock indications/ average launch ranges; TGM limitations; category/carriage/employment/jettison limits for appropriate configuration; aircraft performance limitations at high gross weights/drag index.

5.4.2.4. MAV-2 (2-4 x F-16s - High Threat/Advanced Maverick)

5.4.2.4.1. Mission Objectives. Practice low/medium altitude navigation, formations, and threat reactions in a high-threat environment while employing the various Maverick missiles; Practice 2/4 ship first run attacks;

5.4.2.4.2. Specific Mission Tasks. Missile ground checks, trail departure, missile bore sight, and simulated/actual two-ship or four-ship deliveries on targets of varying types and contrast. Utilize adversaries, and/or a Forward Air Controller (FAC), if available.

5.4.2.4.3. Special Briefing Items. AGM/TGM-65 A/B/D/G preflight; ground operations; contrast and target size techniques; environmental effects on target acquisition/lock-on/launch range; switchology; limitations; formation employment options; threat reactions; reattack considerations; FAC interface, if applicable.

5.4.2.5. SAT-1 (2-4 x F-16s - Low-Threat Offensive Counter Air-Interdiction):

5.4.2.5.1. Mission Objectives. Practice low/medium altitude navigation, formations, and threat reactions in a low-threat environment. Practice low-threat tactical deliveries against a preplanned target.

5.4.2.5.2. Specific Mission Tasks. Trail departure; spinner/fence check; Auto IFF; low/medium/high altitude ingress; tactical formation; threat reactions and initial moves during ingress; Surface-to-Air threat reactions in the target area; TOT compliance (+/- two minutes); 45, 30 and/or 20 degree dive deliveries; battle damage check; and in-flight report.

5.4.2.5.3. Special Briefing Items. MK-82LD/M904,M905 preflight and SMS loading; Radar Warning Receiver (RWR), radar, Auto IFF, chaff/flare settings; weaponeering; mutual support on ingress, Forward Edge of Battle Area (FEBA) crossing, IP to target run, and egress; Air-to-Air and Surface-to-Air threat reaction specifics.

5.4.2.6. SAT-2 (2-4 x F-16-- Offensive Counter Air - Airfield Attack):

NOTE: Some of the other target elements in the airfield complex you may be fragged against on an OCA mission are: aircraft shelters, maintenance facilities, POL, command and control center, and aircraft in the open.

5.4.2.6.1. Mission Objectives. Practice low/medium altitude navigation, formations, and threat reactions in a medium/high-threat environment. Practice Warbook attacks against preplanned targets defending an airfield complex.

5.4.2.6.2. Specific Mission Tasks. Trail departure, spinner/fence check, Auto IFF, low or medium altitude ingress, tactical formation, threat reactions during ingress and in the target area, TOT compliance (+/- two minutes), Warbook attacks in a high threat target area, reattack/weather backup deliveries, egress, Battle Damage (BD) check, and in-flight report.

5.4.2.6.3. Special Briefing Items. MK-84AIR/FMU-139 preflight and SMS loading; formation responsibilities and priorities; radar, chaff/flare, ALQ-131 pod settings; Auto IFF, authentication, safe passage procedures; employment limitations, jettison, frag clearance; desired point of impact (DMPI); weather backup, degraded aircraft delivery modes; mutual support in the target area; wounded bird procedures; single-ship tactics; and SAR procedures.

5.4.2.7. SAT-3 (2-4 x F-16s, TGP optional - Suppression of Enemy Air Defenses (SEAD)):

5.4.2.7.1. Mission Objectives. Practice low/medium-altitude navigation formation and threat reactions in a high-threat environment. Practice Warbook attacks in an integrated air defense system (IADS) environment against an air defense system. This mission may be flown with a TGP.

5.4.2.7.2. Specific Mission Tasks. Trail departure, fence/bomb check, low or medium-altitude ingress, tactical formation, Auto IFF, threat reactions during ingress and in the target area (except during pop-ups or deliveries), TOT compliance (+/- one minutes), weather backup deliveries, egress, battle damage check; and in-flight report.

5.4.2.7.3. Special Briefing Items. FZU-39 or FMU-139 operation; go/no-go criteria; CBU-87 or GBU-12 preflight and SMS loading; RWR, radar, chaff/flare, ALQ-131 pod settings; Auto IFF, authentication, safe passage procedures; how to saturate an IADS sector; threat reaction to multiple SAM launches (level S techniques); Desired Mean Point of Impact (DMPI)'s; mutual support in the target area; single-ship egress tactics; and Search and Rescue (SAR) procedures.

5.4.2.8. SAT-4 (2-4 x F-16s - High-Threat Offensive Counter Air - Interdiction):

5.4.2.8.1. Mission Objectives. Practice low/medium-altitude navigation, formations, and threat reactions in the IADS environment. Practice Warbook attacks against surface targets that are vital elements of the enemy's air potential such as an airfield complex.

5.4.2.8.2. Specific Mission Tasks. Trail departure, fence/bomb check, low- or medium-altitude ingress, tactical formation, threat reaction on ingress, in the target area, and during egress, TOT compliance (+/- one minute), weather backup deliveries, egress, battle damage check, inflight report, and safe passage procedures.

5.4.2.8.3. Special Briefing Items. Assume an attack on facilities by a runway. BSU-49/FMU-139 operation, preflight and SMS loading; go/no-go criteria; formation responsibilities and

priorities; RWR, radar, chaff, flare, ALQ-131 pod settings; Auto IFF, authentication, chattermark, and safe passage procedures; impact angle considerations, DMPI, and attack axis considerations; mutual support in the target area; single-ship egress tactics; wounded bird, and SAR procedures.

5.4.2.9. SAT-5 (2-4 x F-16s, TGP optional - Low/High Threat BAI):

5.4.2.9.1. Mission Objectives. Practice air support operations in and near the battle area in a low/high threat environment with or without a FAC. Practice wheel patterns and random attacks. May be flown with a TGP.

5.4.2.9.2. Specific Mission Tasks. Scramble launch; tactical formation; spinner/fence check; FAC rendezvous (if applicable); fighter-to-FAC and FAC-to-fighter briefs (if applicable); use of Universal Transverse Mercators (UTM) coordinates in the Inertial Navigation System (INS); Warbook attacks and associated deliveries in a low/high threat Backup Aircraft Inventory (BAI) scenario; threat reaction calls in the battle area; Battle Damage Assessment (BDA) report; BD check; and in-flight report.

5.4.2.9.3. Special Briefing Items. GBU-12 mission planning, TGP employment, preflight and SMS loading; formation responsibilities and priorities; RWR, radar, chaff/flare settings; authentication procedures; troops-in-contact procedures; CBU-12 delivery parameters and backup weather delivery options; target acquisition techniques; hung/no release recovery considerations; mutual support in the battle area; abort and authentication procedures; communications jamming chattermark procedures; restricted attack axis attacks.

5.4.2.10. SAT-6 (2-4 x F-16s - armed reconnaissance/sector attack):

NOTE: Mission can be performed alone, but is often accomplished during the homebound phase of other missions.

5.4.2.10.1. Mission Objectives. Practice low/medium-altitude navigation, formations, and threat reactions in all threat environments. Practice search, acquisition, and attack tactics against targets of opportunity.

5.4.2.10.2. Specific Mission Tasks. Trail departure; fence/bomb check; low or medium-altitude ingress; tactical formation; threat reaction calls and initial moves during ingress and in the target area (Limited Operational Capability (LOCs), chokepoints, etc.); Warbook attacks; wheels; racetracks and associated deliveries as dictated by the threat environment; battle damage check; and in-flight report.

5.4.2.10.3. Special Briefing Items. MK-82/FMU-113 operation, pre-flight and SMS loading; go/no-go criteria; formation responsibilities and priorities, RWR/radar/chaff/flare/ALQ-131 pod settings; Auto IFF; authentication; safe passage procedures; search, acquisition, "MARK", and attack techniques; mutual support during attacks.

5.4.2.11. SAT-7 (2-4 x F-16s - hunter-killer) F-16 WW (or any fighter aircraft in the wild weasel (WW) role):

5.4.2.11.1. Mission Objectives. The mission is identical to SAT-6 except that the target(s) are usually mobile. Therefore, WW assistance is needed to help pinpoint target location.

5.4.2.11.2. Special Briefing Items. In addition to the special briefing items in SAT-6, also cover: F-16/WW aircraft performance and systems compatibility; F-16/WW operations to include Rendevous (RNDV) and coordination procedures, the "Gold Key" maneuver; basic Wild Weasel (WW) operations with emphasis on formations, lookout responsibilities, and the wingman support role. IR/EO Maverick.

5.4.2.12. MAROPS (2-4 x F-16s - JMO/ open sea, closed sea, or beach operations):

5.4.2.12.1. Mission Objectives. Practice low-altitude navigation, formations, and threat reactions over water. Practice Warbook attacks against an open sea convoy and its associated defense network, or against targets in a closed sea beach operation.

5.4.2.12.2. Specific Mission Tasks. Trail departure, weapons/fence check, low-altitude ingress, tactical formation, threat reactions during ingress in the target area and during egress, Warbook attacks against an open sea convoy, reattack/weather backup deliveries, egress, battle damage check, and in-flight report.

5.4.2.12.3. Special Briefing Items. AGM-65G capabilities and employment considerations; go/no-go criteria, formation responsibilities and priorities, RWR/pod/radar/chaff/ flare/ ALQ-131 pod settings, Auto IFF, authentication, chattermark, and safe passage procedures; saturation tactics, radar horizon considerations, support asset capabilities, threat reaction options; loft, long range dive toss, or other standoff deliveries appropriate for open/closed sea operations; desired impact point, attack axis considerations, Warbook attacks, and mutual support in the target area and during egress; limitations of over water navigation and attacking moving targets, use of the radar altimeter, GM/SEA 1/SEA 2, snowplow, freeze mode, and CCRP.

5.4.2.13. CFT (2-4 x F-16s composite force training - minimum of two different aircraft types):

5.4.2.13.1. Mission Objective. Practice planning, coordinating, and controlling an attack package for optimum employment.

5.4.2.13.2. Specific Mission Tasks. Planning, route deconfliction, frequency coordination, silent launch procedures (if authorized), air refueling(if available), low or medium-altitude ingress tactical formation, threat reaction calls and initial moves during ingress, in the target area and during egress, TOT compliance (+/- ten minutes), sector/Intergrated Air Defense System (IADS) saturation via multiple ingress routes and attacks/deliveries on multiple targets, egress, battle damage check, in-flight report, and recovery coordination.

5.4.2.13.3. Special Briefing Items. MK-84/FMU-139 operation, pre-flight, SMS loading; Go/no-go criteria, alternate/back up plans due to drop outs and late takeoffs, compatibility

(performance characteristics, combat radius, etc.) and optimum employment of various package aircraft, positive identification of enemy aircraft, sector/IADS saturation techniques, ingress, target area, egress deconfliction; reattack restrictions, frag clearance and safe escape will be briefed for simulated/actual loads.

5.4.2.14. CAS-1 (2-4 x F-16s - low threat CAS; one OA-10/ground FAC required)

5.4.2.14.1. Mission Objectives. Practice air support operations in and near the battle area in a low threat environment. Practice wheel patterns and random attacks under supervision of a FAC.

5.4.2.14.2. Specific Mission Tasks. Scramble launch; tactical formation; spinner/fence check; FAC rendezvous; fighter-to-FAC and FAC-to-fighter briefs; use of UTM coordinates; Warbook attacks and associated deliveries in a low threat CAS scenario; threat reaction calls in the battle area; BDA report; BD check; and in-flight report.

5.4.2.14.3. Special Briefing Items. CBU-87/FZU-39 operation, preflight and SMS loading; formation responsibilities and priorities; RWR, radar, chaff/flare settings; authentication procedures; troops-in-contact procedures; CBU-87 delivery parameters and backup weather delivery options; target acquisition techniques; hung/no release recovery considerations; mutual support in the battle area; abort and authentication procedures; communications jamming chattermark procedures; restricted attack axis attacks.

5.4.2.15. CAS-2 (2-4 x F-16s - medium/high-threat CAS one OA-10 (A/FAC) or a ground FAC):

5.4.2.15.1. Mission Objectives. Practice air support operations in and near the ground battle area in a medium/high-threat environment with or without a FAC.

5.4.2.15.2. Specific Mission Tasks. Scramble launch, trail departure, tactical formation, fence/bomb check, high FAC and low FAC contact and briefs (if applicable), Warbook attacks in a medium/high-threat environment, threat reaction calls and initial moves in the battle area, BD check and in-flight report.

5.4.2.15.3. Special Briefing Items. MK-82/FMU-113 operation, pre-flight and SMS loading; formation responsibilities and priorities, authentication procedures, delivery parameters/frag clearance, Troops-in-contact procedures, target acquisition techniques, mutual support in the battle area, and communications jamming considerations.

5.4.2.16. Combat Search and Rescue (CSAR) (2-4 F-16s - low to medium threat CSAR exercise, Sandy aircraft, and ground personnel):

NOTE: Mission may be flown in conjunction with other SAT missions, depending on the number of support assets available.

5.4.2.16.1. Mission objectives. Practice CSAR in a realistic low/medium threat environment while coordinating with Sandy and special ops aircraft, to extract a downed aircrew member.

5.4.2.16.2. Specific Mission Tasks. Mission planning, trail departure, low/medium altitude ingress, tactical formation, force marshalling, Sandy coordination, groundfire suppression, high cover during extraction, threat reactions, egress, BD check and in-flight report.

5.4.2.16.3. Special Briefing Items: Mk-82/M904,M905 operation, preflight, and SMS loading; Sandy coordination, marshalling formations and techniques; survivor location techniques, signaling devices, enemy threat suppression, cover formations, threat reaction calls, and helicopter support.

5.4.2.17. CWD (1-2 x F-16s - chemical warfare flight):

5.4.2.17.1. Mission Objectives. Practice flight while wearing a partial CWD ensemble as prescribed by AFI 11-2F-16V1, day conventional weapons deliveries; weather minimums of 1,500/3; basic intercepts if available; approach(s); and pattern(s).

5.4.2.17.2. Specific Mission Tasks. Cockpit familiarization and field of view check, takeoff, weapons systems check, route/tactical formation, weapons deliveries using basic delivery patterns, intercepts to weapons envelope, instrument approach(s); overhead pattern(s), SFO (if available), and single-ship landing.

5.4.2.17.3. Special Briefing Items. Importance of proper mask fit, loss of feel through gloves, breathing difficulties, preflight of aircraft, mask slippage under G, hot weather operations, emergency removal of mask in flight, defogging mask, and over water ejection.

5.4.2.18. NVG-5: Element Attacks (2 x F-16C; time: 1.5; crew: flight lead, pilot; configuration: 1 x AIM-9, 20mm TP desired, 3 x BDU-33, 1 x TGM-65 D/G, chaff/flares).

5.4.2.18.1. Mission Objectives. Proficiency in night NVG element attacks from medium altitude. Proficiency in formation flying using NVGs.

5.4.2.17.1. Mission Objectives. Practice flight while wearing a partial CWD ensemble as prescribed by AFI 11-2F-16V1, day conventional weapons deliveries; weather minimums of 1,500/3; basic intercepts if available; approach(s); and pattern(s).

5.4.2.17.2. Specific Mission Tasks. Cockpit familiarization and field of view check, takeoff, weapons systems check, route/tactical formation, weapons deliveries using basic delivery patterns, intercepts to weapons envelope, instrument approach(s); overhead pattern(s), SFO (if available), and single-ship landing.

5.4.2.17.3. Special Briefing Items. Importance of proper mask fit, loss of feel through gloves, breathing difficulties, preflight of aircraft, mask slippage under G, hot weather operations, emergency removal of mask in flight, defogging mask, and over water ejection.

5.4.2.18. NVG-5: Element Attacks (2 x F-16C; time: 1.5; crew: flight lead, pilot; configuration: 1 x AIM-9, 20mm TP desired, 3 x BDU-33, 1 x TGM-65 D/G, chaff/flares).

5.4.2.18.1. Mission Objectives. Proficiency in night NVG element attacks from medium altitude. Proficiency in formation flying using NVGs.

5.5. Air-to-Air.

5.5.1. General.

5.5.1.1. Building Block Approach. Effective air-to-air employment is a complex skill encompassing many levels of proficiency. Generally, a pilot must be proficient in accomplishing a certain task, prior to advancing to higher degrees of difficulty. When deficiencies are noted, they must be corrected before more demanding/complex scenarios are flown.

5.5.1.1.1. Flight Lead Requirements. Flight leaders establish/brief the desired scenario, specific roles for each flight member, and DLOs for each engagement. They should design each engagement to maximize the training opportunities. The DLOs and Training Rules (TRs) define termination criteria for each engagement. DLOs will be specifically addressed in flight debrief.

5.5.1.1.2. Flight Lead Responsibility. Flight leaders should select a specific continuation training scenario to establish objectives and mission specifics.

5.5.1.2. Recording Systems. The VTR recording program and Air Combat Maneuvering Instrumentation (ACMI) are integral parts of air-to-air training. Flight leaders and supervisors ensure VTRs and ACMI are utilized efficiently. All missile and gun shots are reviewed in the flight debrief.

5.5.1.3. Force Employment. Current combat employment techniques revolve around the deployment of aircraft in the two-ship or four-ship formation. To attain this capability, air-to-air training will begin with valuable single-ship awareness training (AHC, BFM, intercepts). Once proficient in these areas, pilots will progress into two-ship and four-ship employment. Phase training will ensure proficiency in air-to-air basics and enable the squadron to schedule more demanding scenarios without exceeding the unit's capabilities.

5.5.1.4. Alternate Missions. If an abort/cancellation occurs in planned two-ship/four-ship scenarios, the mission will continue provided the alternate mission was briefed and correct supervisory requirements are met. The single may function as an element with a phantom wingman or may simply be a training aid for the flight.

5.5.1.5. Dissimilar Assets. Schedule dissimilar aircraft on air-to-air sorties consistent with their availability. Dissimilar aircraft may be substituted for any F-16 mentioned in the scenarios listed in this chapter.

5.5.1.6. Similar Assets. Similar Air Combat Tactics (ACT) training is generally restricted to a maximum of four aircraft. Intercept sorties may be flown similar with up to six aircraft.

5.5.2. Scenarios:

NOTE: The following scenarios have objectives and special briefing items which, at the flight leaders discretion, may be modified to enhance the training of a particular scenario as it applies to the pilots within the flight.

5.5.2.1. BFM-1 (2 x F-16s 1v1 offensive BFM):

5.5.2.1.1. Mission Objectives. Maneuver to kill the bandit, and maintain energy/positional advantage on the bandit.

5.5.2.1.2. Specific Mission Tasks. Weapons system check; fence check; offensive roll slides; G-awareness exercise; gun/missile employment exercises; within visual range setups for offensive maneuvering; range on setups to vary from 9,000, 6,000, and 3,000 feet, with aspect angles up to 40 degrees, and missile/gun employment; BD check.

5.5.2.1.3. Special Briefing Items. Gun and AIM-9M preflight/ground checks, HUD setup, Air Combat Maneuvering (ACM) modes of operation and techniques, AIM-9M employment techniques/envelope; turn circle entries/errors; EEGS symbology, gun employment techniques utilizing Enhanced Envelope Gunsight (EEGS), bandit maneuver options and appropriate counter moves to maintain the offensive; minimum range and minimum altitude awareness; snapshot techniques, and VTR operation.

5.5.2.2. BFM-2 (2 x F-16s 1v1 defensive BFM):

5.5.2.2.1. Mission Objectives. Negate initial and all subsequent attacks, get neutral with the bandit, and go offensive or separate.

5.5.2.2.2. Specific Mission Tasks. Weapons system check; fence check; defensive roll slides; G-awareness; defensive gun/ missile employment exercises; within visual range setups for defensive maneuvering; angles for setups will vary from 9,000, 6,000, and 3,000 feet with aspect angles up to 40 degrees; setups will include defensive reactions against missiles, snapshot attempts, and guns tracking attempts, employment of chaff/flares, and combat separations to survive/go offensive.

5.5.2.2.3. Special Briefing Items. Gun and AIM-9M pre-flight/ground checks; chaff/flare preflight and setup; radar (RDR), HUD, and RWR setup; G-awareness; defense against all-aspect IR missiles; lift vector control; bandit BFM errors; techniques for snapshot defense; slow speed maneuvering, and reversals; guns defense, and VTR setup and utilization.

5.5.2.3. BFM-3 (2 x F-16s 1v1 high aspect setups):

5.5.2.3.1. Mission Objectives. Maneuver to gain offensive advantage. Kill the bandit or separate prior to becoming defensive.

5.5.2.3.2. Specific Mission Tasks. Weapons system check, fence check, G-awareness exercise, and WVR high aspect setups.

5.5.2.3.3. Special Briefing Items. Gun, AIM-9M, chaff/flare pre-flight and ground checks; RDR, HUD, RWR setup; AIM-9M envelope and employment techniques; two-circle versus one-circle engagement philosophy; lead turn; energy management; VTR assessment.

5.5.2.4. ACM-1 (3 x F-16s - 2v1 WVR/BVR two-ship air combat maneuvering):

5.5.2.4.1. Mission Objectives. Survive a rear aspect IR and gun threat; operate as an effective member of an element engaged with a single bandit; kill or separate as the situation dictates.

5.5.2.4.2. Specific Mission Tasks. Weapons system check; fence check; G-awareness exercise; defensive ranging exercise; tactical formation; WVR setups for low-aspect starts; BVR offensive and defensive 2v1 engagements; coordinated attacks and tactical reentries into a developed fight; weapons employment; employment of chaff/flares as required; disengagement tactics and combat separations.

5.5.2.4.3. Special Briefing Items. Gun and AIM-9M pre-flight/ground checks; SMS, RDR, HUD, and RWR setup; visual search techniques; initial move options; engaged/supporting fighter comm and maneuvering; reentry techniques; use of chaff/flares; Infrared Counter Measures (IRCM).

5.5.2.5. ACM-2 (4 x F-16s - 2v1+1 beyond visual range ACM):

5.5.2.5.1. Mission Objectives. Weapons system check, fence check, G-awareness exercise, beyond visual range intercepts against multiple single-ship bandits; element mutual support; element offensive and defensive maneuvering; effective comm.

5.5.2.5.2. Specific Mission Tasks. Weapons system check, fence check, G-awareness exercise, two-ship BVR intercepts versus a single aircraft, while an additional bandit is operating in the arena; singles may operate in concert, but may not engage simultaneously; coordinated attacks, tactical reentries, if required; weapons employment; element combat separations, and employment of chaff/ flares as required.

5.5.2.5.3. Special Briefing Items. Same as ACM-1. RWR awareness /interpretation; visual lookout doctrine during intercept conversions; combat separations.

5.5.2.6. OCA-1 (2-4 x F-16s v X - Offensive Counter Air (OCA) sweep tactics):

5.5.2.6.1. Mission Objectives. Employment of an element/flight to gain and maintain air superiority over a specified area for a specified vulnerability time; detect, sort, target, engage, kill, and separate; coordinated attacks; employment of missiles, guns, chaff/flares, and Electronic Countermeasures (ECM) as appropriate; effective use of GCI or Airborne Warning and Control System (AWACS).

5.5.2.6.2. Specific Mission Tasks. Weapons system check, fence check, "con" check, tactical formation; G-awareness exercise; use of GCI, BVR setups; kill passing/removal, desired engagement zone, safe areas, and enemy/friendly IADS engagement zones; fights may be

continuous through use of safe area regeneration.

5.5.2.6.3. Special Briefing Items. AIM-120 operation, preflight, and SMS setup; A/A TACAN use, chaff/flare setup; CAP setup; commit criteria; probable enemy formations and tactics; gameplan/footwork for offensive tactical formations; radar search responsibilities; radar employment techniques; communication and element coordination techniques; merge plot tactics and consideration for sweep environment; two-ship separations; visual mutual support versus non-visual mutual support.

5.5.2.7. OCA-2 (2-4 x F-16s+ strikers - escort tactics):

5.5.2.7.1. Mission Objectives. Coordination with a strike package: objectives, route, target, formations, ingress/egress flow, threat reactions; attrit max bandits to enhance strike package survivability; commit criteria; reform tactics and deconfliction.

5.5.2.7.2. Special Mission Tasks. Coordination with strike package for requisite C3, formations, route, timing, target, and threat reactions; weapons system check; fence check; G-awareness exercise; escort formations; radar and visual lookout; threat reactions as required to negate attacks; and reform as required.

5.5.2.7.3. Special Briefing Items. Route of flight; timing; perceived threat sectors; route; formations; target area tactics; escort formations, visual and radar lookout; commit criteria; split criteria, and reform techniques; low-altitude TRs; fuel awareness; employment considerations with AIM-120.

5.5.2.8. DCA-1 (2-4 x F-16s v X - DCA CAP):

5.5.2.8.1. Mission Objectives. Employment of an element/flight to protect a specific target; detect, sort, target, engage and destroy enemy aircraft; tactical withdrawal is generally not an option; coordinated attacks; employment of missiles, guns, chaff/flares, and ECM to negate enemy offensive efforts.

5.5.2.8.2. Specific Mission Tasks. Weapons system check; fence check, G-awareness exercise; tactical formation; CAP tactics with limited or no GCI; detect the bandits, and negate the attack; employment from a CAP posture; if separated, tactically reform and continue to protect airspace.

5.5.2.8.3. Special Briefing Items. AIM-120 operation, preflight, and SMS setup; RWR, chaff/flares, RDR, A/A TACAN, and ECM for point defense operations; CAP mechanics; probable enemy formations and tactics; ingress routes; radar and visual search responsibilities; visual lookout doctrine; communication and element coordination techniques; engagement tactics and DCA considerations; short commit procedures; regroup techniques; commit/recommit considerations in a multi-bogey environment; single-ship awareness during non-visual or detached mutual support operations.

5.5.2.9. DCA-2 (2-4 x F-16s v X - DCA Lane Defense):

5.5.2.9.1. Mission Objectives. Employment of an element/flight to protect a defined area or lane; detect, sort, target, engage and destroy enemy aircraft entering the lane; coordinated attacks; employment of missiles, gun, chaff/flare, and ECM to negate enemy offensive efforts.

5.5.2.9.2. Specific Mission Tasks. Weapons systems check, fence check, G-awareness exercise; tactical formation; CAP tactics utilizing GCI; detect ingressing bandits and negate the attack; employment from a CAP posture; tactical reform and withdrawal, if required.

5.5.2.9.3. Special Briefing Items. AIM-120 operation, preflight, and SMS setup; RWR, chaff/flare, RDR, A/A TACAN, and ECM for lane defense operations; CAP mechanics; probable enemy formations and tactics; ingress route; safe passage procedures and PID procedures; radar and visual search responsibilities; communication and element coordination; engagement tactics and lane defense considerations; commit criteria; short commit footwork; reform techniques.

5.5.2.10. AI-1 (2-3 x F-16s - 1v1 or 1v2 medium and high-altitude intercepts):

5.5.2.10.1. Mission Objectives. Medium and high altitude intercepts against a single bandit or bandit formation; if multiple bandits, target the correct bandit; level, look-up, and look-down geometry; proper management of vertical and horizontal turning room; simulated or actual IMC intercepts to BVR/VID passes, and weapons employment; engage or egress, as appropriate.

5.5.2.10.2. Specific Mission Tasks. Radar trail departure, weapons system check; G-awareness exercise; BVR setups (20 to 30 NM) with or without GCI; effective radar techniques against an unknown adversary force ; valid weapons employment in minimum time; radar and IR missile defense; AIM-120, AIM-9M, or gun, as appropriate.

5.5.2.10.3. Special Briefing Items. Weapons employment zone (WEZ) for each missile at varying altitudes; radar setup and operation; radar, SMS and chaff/flare setup and operation; radar and IR missile defense techniques; alert/scramble procedures and techniques; radar trail departure procedures, GCI coordination and intercept terminology; RDR mode selection; intercept geometry control; ECM intercept techniques; blow through or skip it procedures.

5.5.2.11. AI-2 (2/3 x F-16s - 1v1 or 1v2 low altitude intercepts):

5.5.2.11.1. Mission Objectives. Detect and engage a low altitude bandit or bandit formation; if multiple bandits, target the correct bandit; proper management of vertical and horizontal turning room; intercepts to BVR/VID passes and weapons employment; engage or egress, as appropriate.

5.5.2.11.2. Specific Mission Tasks. Radar trail departure, weapons system check, fence check; G-awareness exercise; BVR setups with or without GCI; effective radar
employment techniques against an unknown adversary force; radar and IR missile defense, and valid weapons employment.

5.5.2.11.3. Special Briefing Items. Weapons Employment Zone (WEZ) for each missile at low altitudes; radar, SMS and chaff/flare setup and operation; radar and IR missile defense

techniques; alert/scramble procedures and techniques; radar trail departure procedures, GCI coordination and intercept terminology; slow/fast mover intercept techniques; radar mode selection; intercept geometry control; ECM intercept techniques; blow through or skip it procedures.

5.5.2.12. AI-3 (4/6 x F-16s - 2v2/4 tactical intercepts):

5.5.2.12.1. Mission Objectives. Employ an element to successfully intercept and destroy two or more bandits employing varied formations and tactics; detect, sort, and target each bandit/group; effective use of GCI/AWACS; valid weapons employment; all-aspect threat awareness; defensive reactions if required.

5.5.2.12.2. Specific Mission Tasks. Weapons system check; fence check; G-awareness check; con check; tactical formation; GCI area brief; BVR setups; effective element radar employment techniques against an unknown adversary force; effective radar employment in an ECM environment; radar and IR missile defense, and valid weapons employment.

5.5.2.12.3. Special Briefing Items. Same as AI-1/2; element employment techniques; targeting; ECM radar techniques; merged plot tactics; split criteria; loss of visual mutual support versus.

5.5.2.13. NAI-1 (2-4 x F-16s -1v1 or 1v2 or 2v2 night medium and high altitude intercepts):

5.5.2.13.1. Mission Objectives. As a single, or element, intercept a bandit/bandits using intercept tactics designed for night operations; detect, sort and target each bandit/group; effective use of GCI/AWACS; valid weapons employment.

5.5.2.13.2. Special Mission Tasks. Radar trail departure, weapons system check; night formation; GCI area brief; BVR setups from 20 NM to 30 NM; effective radar employment techniques against an unknown adversary force; effective radar employment in an ECM environment; valid weapons employment.

5.5.2.13.3. Special Briefing Items. External and internal lighting setup; MFD and HUD adjustments for night operations; basic instrument cross-check procedures while flying intercepts; altitude and attitude awareness; IMC/night ordnance selection and limitations; IMC/night intercept tactics and formations; night VID procedures; IMC/night TRs differences; spatial disorientation and unusual attitude recovery procedures.

5.5.2.14 NVG-3: Element Intercepts. (4X F-16C; time: 1.5; crew: flight lead, pilot, flight lead, pilot; configuration: 1X AIM-9, AMD Pod, Chaff/Flares).

5.5.2.14.1. Mission Objectives. Proficiency in maintaining tactical formation positions with a variety of external lighting options while executing intercepts. Accomplish two-ship intercepts against two targets (one minimum in case of fallout) using NVGs.

5.5.2.14.2. Specific Mission Tasks. NVG Mission Planning, NVG focusing and adjustment, takeoff/departure, NVG donning/refocusing, system check, g-awareness exercise, element

medium altitude intercepts versus two targets, battle damage check, NVG storing, and recovery/landing.

5.5.2.14.3. Special Briefing Items. Illumination levels, NVG focusing and adjustment, area external lighting procedures, BVR launch and leave tactics, single side offset procedures, PID launch and react procedures, element all aspect missile defense, and specific communication procedures.

5.5.2.15. AHC-1 (1 F-16C/D Advanced Handling Characteristics):

5.5.2.15.1. Mission Objectives. Reinforce pilot's awareness of aircraft maneuvering capabilities and limitations by practicing advanced maneuvering characteristics. Sortie will include high AOA/low airspeed horn awareness training series and vertical recovery demonstration as a minimum. Optional maneuvers which may be performed (time and fuel permitting) are Aerobatics (Loop, Immelmann, Split-S, and Cloverleaf) and Advanced Handling Maneuvers (pitchback, sliceback, and reversals/rolling maneuvers).

5.5.2.14.2. Special Briefing Items. This mission may be accomplished as a planned single ship sortie or as an alternate mission. It can also be accomplished in conjunction with another scheduled air-to-air mission. Configuration may be any air-to-air load without stores on stations 3,4,6, or 7. Aircraft fuel must be balanced, centerline tank empty, and trim neutral. Minimum recovery altitude for all maneuvers is 5000'AGL. Establish military power prior to 300 Knots Indicated Airspeed (KIAS) on any climbing maneuver. In accordance with the objectives listed above a minimum of five maneuvers must be accomplished for this mission. A "G" awareness maneuver must be accomplished prior to beginning the mission maneuvering. Other briefing items are Critical Action Procedures and Dash 1 section VI (Out-of-Control Characteristics). The maneuvers are as follows:

5.5.2.15.2.1. High AOA/Low Airspeed Horn Awareness Maneuvers (MANDATORY):

5.5.2.15.2.1.1. Unload Maneuver: Beginning from a level flight attitude at 250 KIAS and 15000' AGL or above, establish a 30 degree climb at mil power and hold until reaching 25 degrees AOA or 100 KIAS, whichever occurs first. To recover unload to less than 15 degrees AOA until airspeed reaches 200 KIAS, then return to level flight.

5.5.2.15.2.1.2. 60 Degree Nose High Recovery Maneuver: Beginning from level flight and 10,000'AGL minimum at 350 KIAS, establish a 60 degree climb with 2-3 G's and hold steady until reaching 200 KIAS. Recover the aircraft using an unloaded roll with aileron to an inverted position then apply back pressure to bring the aircraft nose back to the horizon. Once the aircraft nose goes below level flight unload to approximately 5 degrees Angle of Attack (AOA) and let the aircraft accelerate. At 200 KIAS roll the aircraft to an upright attitude and recover.

5.5.2.15.2.1.3. Horn Demo Maneuver: Beginning at 300 KIAS and mil power in level flight at 15,000' AGL minimum, establish and hold a 50 degree pitch angle (2-3 G's) with reference to the Altitude Directional indicator (ADI) (not the HUD). At 100 KIAS or when the low speed warning horn sounds (whichever occurs first) perform an unloaded roll toward the nearest

horizon to an inverted position and recover the aircraft as described in the 60 degree nose high recovery. ***Note***: If the pitch attitude is +/-10 degrees from pure nose down vertical as 200 KIAS is reached, recover the aircraft by pulling the aircraft through vertical back to the nearest horizon.

5.5.2.15.2.1.4. Horn Recovery Maneuver 50 - 70 degrees: Set up the maneuver at 15,000' AGL or above, 250 KIAS, and mil power. Roll in to 10-20 degrees of bank and apply full aft stick (limiter). When the horn sounds (or 130 KIAS, whichever occurs first), unload and roll the aircraft inverted toward the nearest horizon. Stop the roll and smoothly apply sufficient aft stick to track the nose below the horizon. Unload and accelerate to 200 Knots Calibrated Airspeed (KCAS), then roll upright and recover. (***Note***: Pitch attitudes of 50-70 degrees are typical and the horn will activate at 150-170 KCAS).

5.5.2.15.2.1.5. Horn Recovery Maneuver 70 - 110 degrees: Set up is exactly the same as the previous maneuver except that the entry airspeed is 300 KIAS. Recover as in the previous maneuver.

5.5.2.15.2.2. Aerobatics:

5.5.2.15.2.2.1. Loop - At 450 KCAS minimum, above 5000' AGL (10,000' AGL recommended), with mil power selected, begin a wings level, 4-5 G pull. As airspeed dissipates across the top, maintain a smooth pitch rate. The AOA should be 13 - 15 degrees (at 14 degrees AOA you should feel light buffeting). As the nose comes back through the horizon inverted (approximately 200-220 KCAS) and airspeed begins to build, ease off the back pressure and play the G to arrive back in level flight near entry altitude and airspeed. In a tanked F-16D, expect to lose 1000' or 50 knots attempting to achieve entry altitude and airspeed. If AB is used, enter at 350 KCAS minimum. Use sufficient G on the back side of the maneuver to preclude excessive airspeed buildup.

5.5.2.15.2.2.2. Immelmann - At 450 KCAS minimum, above 5000' AGL (10,000 AGL recommended), with mil power, begin a wings level 4-5 G pull. As airspeed dissipates across the top, maintain a smooth pitch rate. The AOA should be 13 - 15 degrees (at 14 degrees AOA you should feel light buffeting). As the nose approaches the horizon inverted, unload and roll the aircraft to arrive upright wings level in level flight (FPM on the horizon line). If AB is used enter at 350 KCAS minimum. Roll out at the top remains the same.

5.5.2.15.2.2.3. Split-S - Enter at or above 15000' AGL, between 300-350 KCAS, mil power, level to 10 degrees nose high. Roll unloaded to wings level inverted and smoothly apply full aft stick. Terminate the maneuver in straight and level flight above 5000’ AGL. Note change in altitude and airspeed.

5.5.2.15.2.2.4. Cloverleaf - Pick a point 90 degrees off the nose in the direction of turn. At 450 KCAS minimum, above 5000' AGL, (10,000 AGL recommended), mil power, begin a wings level 3-4 pull. At approximately 45 degrees nose high, decrease back pressure and start a rolling pull in the direction of the 90 degree point. The rate of roll should be planned to reach a wings level inverted position with the nose on the horizon at the 90 degree point (airspeed

approximately 200-220 KCAS). Continue the maneuver as in the backside of a loop, playing the G's to arrive near the entry airspeed and altitude.

5.5.2.15.2.3. Advanced Handling Maneuvers:

5.5.2.15.2.3.1. Pitchback – Beginning at 400 KIAS and 10,000' AGL in level flight, initiate afterburner operation, establish a 40-50 degree bank angle and pull the aircraft through a climbing turn to reverse heading by 180 degrees. Note the altitude gained if a constant airspeed is maintained. When the maneuver is complete the aircraft is in approximately 135 degrees of bank and the heading has changed approximately 180 degrees.

5.5.2.15.2.3.2. Sliceback – Beginning at 350 – 400 KIAS at or above 15,000' AGL in level flight, roll the aircraft to 135 degrees of bank and initiate a 180 degree descending turn using military power and holding between 300 – 400 KIAS throughout the turn. Note altitude lost and energy state upon completion.

5.5.2.15.2.3.3. Reversals/Rolling Maneuver Demonstration - Enter above 15,000' AGL at 300 – 400 KCAS. Begin by reversing the direction of turn while maintaining G loading. This maneuver demonstrates the characteristics of a vector roll and its effects on energy state. It's used in air-to-air training by attackers to prevent a flight path overshoot and as a last ditch defensive maneuver to force an overshoot. Full lateral tick pressure produces maximum roll rate at any AOA and airspeed, while limiters decrease roll rate below 250 KCAS or above 15 degrees AOA. Rudder is not required at any AOA/airspeed.

5.5.2.15.2.4. Vertical Recovery (MANDATORY): The objective is to demonstrate the effect of the 30 degree seat when extremely nose high, g and pitch rate available at low airspeed and through the vertical without fear of getting the nose buried. Set up at 10,000' AGL minimum, 400 KCAS, if 200 KTS mil power occurs at any attitude above 60 degrees of pitch and other than true vertical, immediately execute the nose high recovery maneuver. Note how the 30 degree seat angle creates an impression of being more than pure vertical. At 250 KCAS, smoothly apply and hold full aft stick pressure to establish a pitch rate towards the horizon.

(***Note:*** If full aft stick pressure is inadvertently released during the recovery, smoothly reapply aft stick pressure only if required to keep the nose moving toward the horizon. If you have released the stick and the nose is still moving toward the horizon, do not reapply aft stick.) Continue to hold full aft stick pressure while the aircraft passes nose down vertical. When the nose is 30 degrees below the horizon, unload and accelerate to 200 KCAS minimum before completing recovery to wings level flight. During this demonstration the airspeed will decrease and, with full aft stick, the G will drop to 1.6 - 1.7; but the limiter, controlling AOA, will still permit a rapid pull through approximately 240 degrees of pitch change.

5.6. Electronic Combat Training:

5.6.1. General.

5.6.1.1. Electronic combat (EC) training will be accomplished to ensure all 944 FW F-16 pilots

are both knowledgeable and proficient in unit equipped F-16 EC systems. EC training will also provide training in enemy EC capabilities and philosophy of employment, correct use of EC systems against specific threats and ordnance types, and effective use of evasive maneuvers in concert with EC systems. Through an ongoing, active EC Program, the system's reliability will be enhanced thus providing the desired protection when needed.

5.6.1.2. Responsibilities. The 302 FS/DOW is responsible for the overall conduct of the wing EC program. A wing EWO and a squadron electronic combat pilot (ECP) will be responsible for the 944 FW EC program within the 302 FS/DOW shop.

5.6.1.3. Ground Training:

5.6.1.3.1. Coordination. Coordinate EC training through the EWO. Instructors include members of the Intelligence shop, pilots qualified to instruct specific systems/tactics based on experience and attendance at formal academic training courses, and guest lecturers, when available.

5.6.1.3.2. Academics. Academic training will draw from the subject areas as listed below with adherence to paragraph above.

5.6.1.3.2.1. "Have Quick".

5.6.1.3.2.2. ALR-69 RWR.

5.6.1.3.2.3. ALE-40 chaff and flare dispenser.

5.6.1.3.2.4. ALQ-131 jamming pod.

5.6.1.3.2.5. ALQ-213 system and integration.

5.6.1.3.2.6. IFF/SIF system.

5.6.1.3.2.7. F-16 radar ECCM capabilities/vulnerabilities.

5.6.1.3.2.8. EC support equipment (EA-6B, EC-130, F16 Block 50/52 HARM, and so on).

5.6.1.3.2.9. Electronic combat (EC) principles.

5.6.1.3.2.10. Soviet electronic jamming equipment.

5.6.1.3.2.11. Enemy surface-to-air missiles.

5.6.1.3.2.12. Enemy anti-aircraft artillery.

5.6.1.3.2.13. Airborne interceptor threat.

5.6.1.3.2.14. Potential bomber/transport/attack threat.

5.6.1.3.2.15. Integrated air defense system.

5.6.1.3.2.16. MCM 3-1, Threat Reference Guide and Countertactics.

5.6.1.3.2.17. Testing. Accomplished testing as prescribed by AFI 11-2F-16V 1.

5.6.1.4. SEPT, MTT Training. Due to present simulator limitations, a combination of SEPT's, and MTT's will be used to increase pilot combat readiness and meet training requirements.

5.6.1.5. Flying Training:

5.6.1.5.1. Flying training consists of three unique areas:

5.6.1.5.1.1. System Evaluation. The first is composed of checking on-board systems. This includes the "Have Quick" radio, ALR-69 RWR system checks, ALE-40 countdown/light validation, IFF/SIF mode checks (I, II, III, IV, C), KY58, and ALQ-131 system checks. 302 FS/DOW will outline and brief local procedures as appropriate to all pilots.

5.6.1.5.1.2. Flights on an Electronic Combat Range. The second area of flying training consists of sorties actually flown on an electronic combat range, such as the Nellis range complex. These sorties will be flown in this environment to give maximum EC training to our pilots in compliance with AFI 11-2F-16V1.

5.6.1.5.1.3. Required Events. The requirement exists to accomplish ECM training. The 944 FW policy for F-16 pilots is to attempt to accomplish ECM training on as many sorties as possible, based on ranges, range time, and equipment constraints.

5.7. Low-Altitude, Air-To-Air Training (LOWAT) Program:

5.7.1. General.

5.7.1.1. 302 FS pilots need to be prepared to conduct offensive and defensive low-altitude air-to-air operations against hostile aircraft. Given the tactical advantages of operating at low altitude, it is essential to be highly proficient in detecting, sorting, analyzing, and reacting offensively/defensively to air-to-air threats while at low-altitude. The low altitude arena, as defined in AFI 11-2F-16V1, is below 5,000 feet AGL.

5.7.1.2. Objectives:

5.7.1.2.1. Training. Provide tactical training against an opposing aerial threat at low altitude.

5.7.1.2.2. Reactions. Training in the detection, interception, and engagement of airborne threats. Discuss visual lookout and mutual support, defensive maneuvering against air-to-air threats, and flight member deconfliction.

5.7.1.2.3. Surface Attack. Provide pilots performing air-to-surface missions the opportunity to observe, analyze, and react to aerial attacks and while accomplishing the ground attack mission.

5.7.1.3. General Instructions:

5.7.1.3.1. Definition. Low-altitude air-to-air training is defined as training in the detection, interception, engagement, or evasion of an opposing aerial threat at low-altitude. This training should stress such basic practices as mutual support, effective communications, and sound tactics commensurate with type threat, TRs, weather, etc.

5.7.1.3.2. Element Integrity. When performing LOWAT in a pure air-to-air scenario, flights will be employed in mutually supporting two-ship flights or multiples thereof. If fallout occurs, AFI 11-2F-16V1 Training Rules (TR) apply.

5.7.1.3.3. Interceptor/Bandit Role. When performing LOWAT in support of air-to-surface scenarios, singles, two-ship flights, or multiples thereof are authorized.

5.7.1.3.4. Flight Split Up. Pilot(s) performing offensive LOWAT may separate from the flight for a portion of the mission to provide the requisite training for the rest of the flight.

5.7.1.4. LOWAT Mission Authorization:

5.7.1.4.1. Checkrides. Stan/Eval flight examiners are authorized to perform LOWAT attacks during tactical flight evaluations.

5.7.1.4.2. Other Unit Participation. The squadron commander or operations officer approves LOWAT missions flown by pilots/units other than the 302 FS.

5.7.1.4.3. Pilot Qualification. Prior to performing in the LOWAT program, each pilot will accomplish the low-altitude step-down training air-to-air (LASDT A/A) as defined in Chapter 6 of this instruction. Once a pilot has completed the step-down program, or has received a program waiver due to accomplishment of a previous program, he will be identified on the aircrew qualification roster letter of Xs as qualified to perform low-altitude air-to-air below 1,000 feet AGL.

5.7.1.4.4. Authorized Participants and Areas:

5.7.1.4.4.1. Where. LOWAT missions are authorized on ranges, MOAs, and approved low level routes.

5.7.1.4.4.2. Safety. Flight safety must be adhered to at all times and the most restrictive TRs applies to whichever area/route is used for the training.

5.7.1.4.4.3. TRs Briefing. Pilots will not participate unless the specific LOWAT TRs have been briefed as prescribed by AFI 11-2F-16V1 and the flight lead authorizes the participation for the flight.

5.7.1.4.5. Responsibilities:

5.7.1.4.5.1. Flight Leader. Flight leaders brief all flight members on appropriate TRs and expected threat reactions.

5.7.1.4.5.2. GCI Control. When available, O'Grady/ Prosecute/Autumn or other GCI will provide intercept control and separation from known, non-participating traffic.

5.7.1.4.5.3. The offensive LOWAT pilot(s):

5.7.1.4.5.3.1. Brief GCI. Pre-coordinates LOWAT profiles.

5.7.1.4.5.3.2. RT Contact. Establishes direct contact with the flight lead of each targeted flight.

5.7.1.4.5.3.3. Authorized Players. Ensures proposed target pilots are authorized LOWAT players.

5.7.1.4.5.3.4. TRs Brief. Attends pre-mission briefings to ensure TRs are understood and to establish the altitude block(s) to be flown.

5.7.1.4.5.3.5. Radio Contact Established. Be on a common flight frequency (UHF or VHF) unless a separate GCI frequency is planned for both fighters and adversaries.

5.7.1.4.5.3.6. Configuration:

5.7.1.4.5.3.6.1. Live Missiles. Do not configure aircraft with live missiles.

5.7.1.4.5.3.6.2. Hot Gun. Aircraft with an armed gun are restricted from participating in LOWAT.

5.7.1.4.5.3.6.3. Aircraft Limits. Observe aircraft limits appropriate to stores configuration.

5.7.1.4.5.3.7. Training Rules (TRs)

5.7.1.4.5.3.7.1. LOWAT TR. AFI 11-2F-16V1, contain the TR for all LOWAT. It must be briefed prior to accomplishing LOWAT.

5.7.1.4.5.3.7.2. Altitude Limits. Offensive LOWAT players will not descend below 500 feet AGL. Defensive LOWAT players may fly as low as their level of currency allows. There will be no defensive LOWAT reactions below 300' AGL.

NOTE: Currently, all LOWAT training is restricted to a minimum of 500' AGL.

5.7.1.4.5.3.8. Currency. Currency is required for low-altitude air-to-air training below 1,000 feet AGL.

5.7.1.4.5.3.8.1. Maintenance. Currency below 1,000 feet AGL may be maintained by flying one LOWAT continuation training event below 1,000 feet AGL in a 90 day period (experienced) / 60 day period (inexperienced).

5.7.1.4.5.3.8.2. Definition. A LOWAT event is defined as an attack or defensive reaction to an actual airborne threat.

5.7.1.4.5.3.8.3. Recurrency. If a pilot's currency has lapsed, it may be regained by accomplishing the following tasks at or below 1000 feet AGL under the supervision of a Low Altitude Step-Down Training (LASDT) IP/FL prior to tactical low altitude air-to-air employment below 1000 feet AGL:

5.7.1.4.5.3.8.3.1. Vertical awareness training.

5.7.1.4.5.3.8.3.2. Hard turns and tactical turns.

5.7.1.4.5.3.8.3.3. Tactical formation.

5.7.1.4.5.3.8.3.4. Offensive and defensive responses.

5.7.1.4.5.3.9. Scenarios:

5.7.1.4.5.3.9.1. Established Scenarios. Any scenario as listed in Section 5-4 and 5-5 of this chapter may be utilized for LOWAT. Any scenario that provides tactical learning potential may be used.

5.7.1.4.5.3.9.2 Flight Lead Established Scenarios. Establish special scenarios to utilize specific weather constraints. As an example, establishing a 2,000 foot ceiling that no one will penetrate for the intercept. This helps train for the varied weather conditions not normally found/used in training scenarios.

5.8. Instrument Training:

5.8.1. Purpose.

5.8.1.1. To establish a squadron instrument training program as prescribed in AFI 11-2F-16V1 when the need requires such sorties.

5.8.1.2. Procedures:

5.8.1.2.1. When: 944 FW F-16 pilots fly instrument sorties as required/desired in addition to the instrument evaluation.

5.8.1.2.2. Profiles. Profiles allow pilot accomplishment of instrument training sorties. The F-16D can be utilized or two F-16Cs. If weather is present, single-ship F-16C sorties may be launched to gain full credit for instrument flying. Unusual attitude recoveries will only be accomplished in the F-16D. The following suggested profiles could be used:

5.8.1.2.2.1. Profile 1. Round robin; AF Form 70, **Pilot's Flight Plan and Flight Log**; DD Form 175, **Military Flight Plan**; DD Form 175-1, **Flight Weather Briefing**; SID/radar vectors; unusual attitudes (if in an F-16D); TACAN/INS navigation; lost wingman exercise (if two-ship); TACAN holding, penetration, approach, and missed approach; ILS approach, missed approach; and PAR approach, missed approach.

5.8.1.2.2.2. Profile 2. Cross-country or out and back accomplishing the same events as profile one. Fill out a 944 FW Form 2, **Request for Cross Country Flight**, two weeks prior to your proposed departure date; and submit it to the 302 FS/DO.

5.8.1.2.2.3. Profile 3. Local flight (scheduled, weather backup, or alternate mission): 944 FW Form 3, **Local Flight Clearance – Flight Order**, Line-up card; stereo departure; TACAN/INS navigation; TACAN holding, penetration, approach, and missed approach; ILS approach, missed approach; PAR approach, missed approach; lost wingman exercise. (if two-ship); and unusual attitudes (if an F-16D).

5.9. Basic Mission Capable (BMC) Flying Training:

5.9.1. Requirements.

5.9.1.1. Requirements for BMC pilots are established in AFI 11-2F-16V1. This instruction also states that BMC pilots may train beyond those requirements, as needed, to meet unit needs. In accomplishing the minimum requirement of sixty sorties per year, BMC pilots will attempt to fly five sorties per month. All sorties flown by BMC pilots will be RAP sorties. The goal is to have BMC pilots proficient, not just qualified and current.

5.9.1.2. Flight Limits. BMC pilots fly at a minimum altitude of 500 feet AGL until completing the mission qualification training outlined in Chapter 4 of this instruction. After completion, the squadron commander or operations officer notes specific clearance to begin low-altitude step-down training, and it is filed in the pilot’s grade book as prescribed in Chapter 3 of this instruction.

5.10. Chemical Warfare Defense Training:

5.10.1. General.

5.10.1.1. Accomplish Chemical Warfare Defense Training as prescribed in AFI 11-2F-16V1.

5.10.1.2. Requirements. Pilots scheduled for CWD flights ensure that pre-mission life support training is accomplished.

5.10.1.3. Training. Accomplish a CWD SEPT trainer during the annual training period, as directed in the RAP tasking message, and just prior to the CWD flight, if required. Missions are normally scheduled to a controlled range, but normal tactical four-ships may be flown; however, in no case violate the restrictions of AFI 11-2F-16V1. Scenarios will be low threat with emphasis on low-threat deliveries. A covered vehicle will be used for transport to the aircraft and individuals train with minimum simulation within safety constraints. See CWD scenario in paragraph 5.4.2.17.

Chapter 6

SPECIALIZED UPGRADE TRAINING PROGRAMS

6.1. General:

6.1.1. Contents. This chapter contains the local upgrade requirements for pilots accomplishing mission qualification training in Maverick, AMRAAM, and CW, as well as LASDT, FL upgrade, and IP upgrade. Maverick, AMRAAM, and CW programs are not required to become MR. They must be accomplished prior to an individual being qualified in that particular area. Table 6.1 lists all syllabus specialized upgrade training sorties.

6.1.2. Low Altitude Training. Low-altitude step-down training must be accomplished if a pilot is to fly below 500 feet or participate in the LOWAT below 1000 feet AGL.

6.1.3. Specialty Upgrades. The flight lead, instructor pilot, range control certification, supervisor of flying certification, and ASLAR certification will be accomplished at the discretion of the operations officer or squadron commander.

6.1.4. Other Training Requirements. Certain deployments may require special preparatory training. Participation in Weapons Systems Evaluation Program (WSEP), Red Flag, over-water deployments, or other special events will be considered on an individual basis. Determine the content of training and documentation by the commander when this need arises.

6.2. MQT Maverick Training:

6.2.1. General:

6.2.1.1. Academics. Accomplish the entire academic program before flying the training portion of the Maverick upgrade program.

6.2.1.2. Supervision. A Maverick qualified instructor or squadron commander designated flight lead is required for Maverick training. It is desirable to have an IP in the flight, if available.

6.2.1.3. Configuration. F-16D can be substituted for MQ-MAV-1.

6.2.1.4. Grade Sheet. Complete the 944 FW Form 4, **F-16 AFORMS Training Accomplishment Sheet,** Initial MAV Qualification, and the initial MAV program worksheet.

6.2.1.5. IR Sorties. If already EO qualified, the squadron commander can waive MAV 1 and 2 for initial IR qualification as prescribed by AFI 11-2F-16V1.

6.2.1.6. Sorties. MQ-MAV-1 and 3 may be combined with squadron commander approval.

6.2.2. Ground Training (DOW). Academics for Maverick consist of the following: principles of AGM-65A/B/D/G model systems and operations; missile guidance and control operation,

capabilities, and limitations; systems capabilities, limitations, and aircraft interface; basic systems operations and aircraft switchology; the defensive threat and effect with EO/IR systems; employment considerations with EO/IR conventional weapons; preplanning as related to sun angle, weather, terrain, and types of targets; tactical mission planning exercise.

6.2.3. Flight Training:

6.2.3.1. MQ-MAV-1. (2-4 x F-16C; time: 1.5; crew: IP, UP, UP/IP, UP/MP; configuration: exterior tank(s), TGM-65A/B, D/G):

6.2.3.1.1. Mission Objectives. Introduce EO/IR weapon system orientation; roll-in, track, and lock-on techniques using basic box patterns; target identification using visual techniques; and effects of sun angles and shadow development. All first-look patterns will have an IP chase unless accomplished in a D model.

6.2.3.1.2. Specific Mission Tasks. Takeoff; weapons system checks; fence checks; basic box patterns with IP chase; demonstrate an improved proficiency in roll-in, track, and lock-on techniques. If time/proficiency permits, proceed to pop patterns, RTB, and landing.

6.2.3.2. MQ-MAV-2. (2-4 x F-16C; time: 1.5; crew: IP/FL, UP/MP; configuration: exterior tank(s), TGM-65A/B, D/G):

6.2.3.2.1. Mission Objectives. Practice EO/IR weapons system orientation/employment; roll-in, track, and lock-on techniques using box patterns and pop-up attacks; target identification using visual techniques; recognize effects of sun angle and shadow development.

6.2.3.2.2. Specific Mission Tasks. Takeoff, weapons system check, fence check, box patterns and pop-up attack profiles with varying dive angles (30 degrees or fewer), target identification and roll-in with varying sun angles and shadow development, RTB, and landing

6.2.3.3. MQ-MAV-3. (2-4 x F-16C; time: 1.5; crew: IP, UP, IP, UP; configuration: exterior tank(s), TGM-65A/B, D/G):

6.2.3.3.1. Mission Objectives. LATF, LATN, EO and IR tactical deliveries using multi-ship tactics, target identification using visual techniques, attacks at varied dive angles to vary from 30 degrees or fewer, element road Reconnaissance (RECCE) attacks, correct attack recoveries, RTB, and landing.

6.2.3.3.2. Specific Mission Tasks. Takeoff, weapons system check, fence check, pop-up attack profiles with varying dive angles as required for proficiency, target identification and roll-in with varying sun angles and shadow development, tactical element attacks, RTB, and landing.

6.3. MQT Advance Medium Range Air to Air Missile (AMRAAM) Training:

6.3.1. General:

6.3.1.1. Academics. Accomplish the entire academic program before accomplishing the flying training portion of the AMRAAM upgrade program.

6.3.1.2. Supervision. An AMRAAM qualified instructor or squadron commander designated flight lead is required for AMRAAM training. It is desirable to have an IP in the flight if available.

TABLE 6.1 SPECIALIZED UPGRADE TRAINING SORTIES

MQ/MAV-1	2-4 F-16s	INITIAL MAVERICK TRAINING (EO/IR)
MQ/MAV-2	2-4 F-16s	INITIAL MAVERICK TRAINING (EO/IR)
MQ/MAV-3	2-4 F-16s	INITIAL MAVERICK TRAINING (EO/IR)
MQ/AMRAAM-1	2-4 F-16s	INITIAL AMRAAM TRAINING (1V1-2)
MQ/AMRAAM-2	2-4 F-16s	INITIAL AMRAAM TRAINING (2VX)
MQ/AMRAAM-3	4 F-16s	INITIAL AMRAAM TRAINING (4VX)
IQ/CWD-1	2 F-16s	INITIAL CHEMICAL WARFARE DEFENSE
LASDT A/S-1	2 F-16s	LASDT A/S (500 FT MIN) CHASE/FORMATION
LASDT A/S-2	2 F-16s	LASDT A/S (300 FT MIN) CHASE
LASDT A/S-3	2 F-16s	LASDT A/S (300 FT MIN) FORMATION
LASDT A/A-1	2 F-16s	LASDT A/A (500 FT MIN) CHASE/FORMATION
LASDT A/A-2	3/4 F-16s	LASDT A/A (300 FT MIN) CHASE
LASDT A/A-3	3/4 F-16s	LASDT A/A (300 FT MIN) FORMATION
FL-1	2 F-16s	OFFENSIVE AND DEFENSIVE BFM
FL-2	2 F-16s	NEUTRAL AND GUNS ONLY BFM
FL-3	3 F-16s	DEFENSIVE ACM
FL-4	4 F-16s	TACTICAL INTERCEPTS (2 V 2)
FL-5	4 F-16s	AIR COMBAT TACTICS
FL-6	2 F-16s	SURFACE ATTACK
FL-7	4 F-16s	BATTLE AREA TACTICS-SURFACE ATTACK
FL-8	2 F-16s	SURFACE ATTACK TACTICS
FL-9	4 F-16s	SURFACE ATTACK TACTICS
FL-10	2 F-16s	MAVERICK
FL-11	4 F-16s	FLIGHT LEAD CERTIFICATION
IP-1	1-2 F-16S	DAY TRANSITION
IP-2	1-2 F-16s	NIGHT TRANSITION
IP-3	2 F-16s	BFM
IP-4	2 F-16s	INTERCEPTS
IP-5	3 F-16s	ACM/DACM
IP-6	4 F-16s	TACTICAL INTERCEPTS
IP-7	4 F-16s	(D) ACT SWEEP V SWEEP
IP-8	4 F-16s	(D) ACT CAP V SWEEP
IP-9	2-4 F-16s	SURFACE ATTACK
IP-10	2-4 F-16s	MAVERICK

TABLE 6.1. SPECIALIZED UPGRADE TRAINING SORTIES (Concluded)

IP-11	4 F-16s	SURFACE ATTACK TACTIC
IP-12	4 F-16s	SURFACE ATTACK TACTICS
IP-CHECK	4 F-16s	IP EVALUATION
TGP-1	2 F-16s	BASIC TGP PROCEDURES
TGP-2	2 F-16s	TGP TACTICAL EMPLOYMENT
CFT-1	MTT	NVG ORIENTATION
NVG-1	2 F-16s	FAMILIARIZATION
NVG-2	2 F-16s	1V1 INTERCEPTS
NVG-3	4 F-16s	ELEMENT INTERCEPTS
NVG-4	2 F-16s	BASIC SURFACE ATTACK
NVG-5	2 F-16s	ELEMENT ATTACKS
NVG-FL	As Required	A/A AND A/G FL
NVG-IP	As Required	A/A AND A/G IP
NVG-AAR	As Required	NVG AIR-TO-AIR REFUELING

6.3.1.3. Grade Sheet. Complete the 944 FW Form 4 (grade sheet), Initial AMRAAM Qualification, and the initial AMRAAM program work sheet.

6.3.1.4. Sorties. AMRAAM-1 may be waived at squadron commander's discretion.

6.3.1.5. AMRAAM-2 may be flown similar and may be combined with MQ/AI-3.

6.3.1.6. ACMI desired on AMRAAM-2/3.

6.3.2. Ground Training. Academics for AMRAAM consist of the following: principles of AIM-120A operations; missile guidance and control; capabilities and limitations; aircraft interface and limitations; missile symbology and switchology; tactical employment considerations; shot doctrine and kill criteria; training considerations.

6.3.3. Flight Training:

6.3.3.1. MQ-AMRAAM-1. (2-4 x F-16C; time: 1.5; crew: IP, UP, UP/IP; configuration: 1xAIM9, AMD.

6.3.3.1.1. Mission Objectives. Introduce AIM-120A symbology and employment against single and multiple targets in a non-ECM environment; radar mode selection; valid shot employment; A-POLE recognition.

6.3.3.1.2. Specific Mission Tasks. Takeoff, weapons systems check, fence check, 'G' awareness exercise, 25-30 NM self set ups, 1v1 against a non-maneuvering and a maneuvering target, 1vX against non-maneuvering and maneuvering targets, BD check, RTB and landing; VTR review for valid weapons employment.

6.3.3.2. MQ-AMRAAM-2. (2 x F16C vs 2-4 x dissimilar aircraft; may be flown similar if dissimilar assets unavailable); time 1.0; crew: IP/FL, UP/MP, configuration: AIM-9M AIS POD, ALQ-131, (if similar).

6.3.3.2.1. Mission Objectives. Introduce element employment against full up adversaries under BVR and PID constraints; element mutual support, sorting and targeting; ID procedures; valid shot employment; valid kill criteria using ACMI RTO's and pilot assessed kills; launch and leave/launch and react tactics.

6.3.3.2.2. Specific Mission Tasks. Take off, weapons systems checks, fence checks, 35-50 NM set ups, BVR and EID/VID engagements or BVR, EID, and VID engagements, RTB and landing, ACMI debrief.

6.3.3.3. MQ-AMRAAM-3.(4 x F16C vs X dissimilar acft; time 1.0; crew IP/FL, UP/MP, IP/FL, UP/MP, configuration; AIM-9M, AIS POD, ALQ-131.

6.3.3.3.1. Mission Objectives. Four-ship employment against full up adversaries under BVR and PID identification constraints; Four-ship mutual support; sorting and targeting; ID procedures; valid AIM-120 employment; valid kill criteria using ACMI RTOs or pilot assessed kills; launch and leave/launch and react tactics.

6.3.3.3.2. Specific Mission Tasks. Take off, weapons systems checks, fence checks, 35-50 NM set ups, BVR, EID/VID, and VID engagements, RTB and landing, ACMI debrief.

6.4. IQT Chemical Warfare Defense (CWD) Training:

6.4.1. IG/CWD-1:

6.4.1.1. Requirements. Accomplish all CWD training as prescribed in AFI 11-2F-16V1. Pilots requiring IQT/CWD-1 should become familiar with that section prior to receiving the required training. (See paragraph 6.4.2.)

6.4.1.2. Training. Manage flight training with flight safety as the primary concern. Due consideration must be given to the limitations of the CWD helmet, mask, and filter pack. Gloves will be worn during the IQT flight.

6.4.2. Flight Training:

6.4.2.1. IQ/CWD-1: (1 x F-16D, 1 x F-16C; time: 1.4; crew: UP/MP, FL; configuration: as available)

6.4.2.1.1. Mission Objectives. Introduce flight while wearing a partial CWD gear ensemble and safely operate in an air-to-surface and/or air-to-air role in the aircrew CW ensemble.

6.4.2.1.2. Specific Mission Tasks. Cockpit familiarization, field of view checkout, single-ship takeoff and join-up (no closer than route), weapons system check, low-altitude tactical formation

(500 feet AGL minimum), LATN, LALD dry (or wet on a controlled range), medium-altitude advanced handling; G-awareness exercises, offensive and defensive ranging, intercepts, instrument approach(s), overhead pattern(s), SFO (if available), and single-ship landing.

6.4.2.1.3. Special Briefing Items. Importance of proper mask fit, loss of feel through the gloves, breathing difficulty because of restrictive flow through the CRU-80P filter, preflight of aircraft, mask slippage under G, hot weather problems, emergency removal of mask in flight, defogging mask, over water ejection, and compensation for hot spots.

6.5. Low-Altitude Step-Down Training Air-To-Surface (LASDT A/S) Program:

6.5.1. General. Tactical aircraft are required to employ both offensively and defensively in the low-altitude environment against continually improving threats, as well as in weather conditions that allow little latitude in maneuvering to higher altitudes. The low-altitude step-down training air-to-surface (LASDT A/S) program in this section and the low-altitude step-down training air-to-air (LASDT A/A) program in the next section are designed to:

6.5.1.1. Train. Initially train pilots at low-altitude to increase the tactical capability of each pilot.

6.5.1.2. Minimize Losses. Eliminate losses due to improper maneuvering or thought processes employed in the low altitude environment.

6.5.1.3. Safety. Understand the implication that the safety buffer zone is increased in direct proportion to an increase in AGL is in fact not true for some critical maneuvers and thus a false sense of free time is perceived.

6.5.1.4. Perceived Comfort. Understand the comfort level approach to low altitude flying can be dangerous because it is associated with perceptual or visual comfort which is often an unreliable measure of actual physical safety.

6.5.2. General Instructions.

6.5.2.1. Governing Instruction and limitations. AFI 11-2F-16V1 outlines a low-altitude step-down training air-to-surface program has been designed to conduct air-to-surface step-down training to a minimum altitude of 100 feet AGL. 944 FW pilots will conduct air-to-surface step-down training to a minimum altitude of 300 feet AGL.

6.5.2.1.1. Previous Checkout. The squadron may accept documented LASDT certification and LOWAT qualifications from other units/commands. With SQ/CC approval, low altitude training conducted at a formal course may be used to fulfill LASDT and LOWAT qualifications.

6.5.2.2. Progression. Progression through the step-down program is based on both the pilots individual assessment of his performance and capability and the IP/FL assessment of pilot performance, TR compliance, airmanship and judgment. At no time will an IP/FL direct or

approve a pilot to step down in difficulty from the outlined program if the pilot makes the determination he is not ready for the increased training level.

6.5.2.3. Final Objectives. Upon completion of this program, 302 FS pilots will be knowledgeable of low-altitude F-16 Category I/III handling and performance characteristics, and demonstrate proficiency in single-ship and two-ship low altitude navigation techniques, terrain masking, ridge crossings, defensive threat reaction, awareness of comfort level (CL) versus minimum altitude (MA) versus critical tasking altitude (CTA), and be certified at level A, B, or C.

6.5.3. Definitions:

6.5.3.1. Low-altitude Environment (LAE). The operating envelope where terrain clearance is the priority pilot tasking.

6.5.3.2. Minimum Altitude (MA). The altitude where the accomplishment of only terrain clearance tasks demands the full use of all available pilot capability.

6.5.3.3. Critical Tasking Altitude (CTA). The altitude where the accomplishment of all the critical tasks demands the full use of all available pilot capability.

6.5.3.4. Non-Critical Tasks. Mission tasks which can be accomplished in a flexible time window and does not immediately effect mission success.

6.5.3.5. Critical Tasks (CT). Mission tasks which demand immediate attention and successful accomplishment.

6.5.3.6. Terrain Clearance Tasks (TCT). Tasks which establish, maintain, or predict terrain clearance.

6.5.4. Prerequisites:

6.5.4.1. MR Status. Pilots enter the LASDT A/S Program only after being declared MR (commander may allow BMC pilots to participate).

6.5.4.2. Supervision. LASDT A/S sorties are supervised by an LASDT IP/Squadron Supervisor who has been certified by the squadron commander.

6.5.4.3. Levels of Step-Down Training. The step-down in AGL requirements is 500, 300, and 100 feet AGL which corresponds to category I, II, and III respectively. Demonstrated proficiency of the tasks/skills required both as a single-ship and in a formation will be validated before progression to the next lower level in AGL.

6.5.4.4. Recurrency. If currency is lost, the pilot will, under the supervision of a LASDT IP/FL, requalify with vertical awareness training, hard turns, tactical formation, and offensive or defensive responses at the appropriate level.

6.5.5. Rules of Conduct:

6.5.5.1. Time. A minimum of 15 minutes per sortie is required for low-altitude training. Not all of the time needs to be spent at minimum altitude.

6.5.5.2. Formation. Line abreast formations (0-30 degrees aft) are authorized down to 300 feet AGL. When in rolling or mountainous terrain, the wingman assumes a wedge formation position (45-70 degrees aft) from the leader.

6.5.5.3. Over Water. Over water maintain 500 feet AGL if out of sight of land or in reduced visibility/indefinite horizon or flight exceeds one-minute duration over water.

6.5.5.4. Formation Changes. Formation changes of position require a minimum of 500 feet over land and 1,000 feet over water.

6.5.5.5. Minimum Airspeed. The minimum airspeed for low altitude is 300 CAS or 360 GS whichever is higher. The minimum airspeed for defensive threat reactions is 350 CAS.

6.5.5.6. Terminate/KIO Criteria. Use the term "terminate" to discontinue maneuvering at low altitude. When "knock-it-off" is called, all aircraft will roll wings level and initiate a climb to above 1,000 feet AGL. "Knock-it-off" (KIO) calls are initiated if an aircraft descends below the pre-briefed minimum altitude, lost communication has occurred, situation awareness is lost, or any aircraft is observed in a descending altitude during a turn and bank is not decreasing. (For lost comm/SA, climb to above 1,000 feet AGL immediately.)

6.5.5.7. Single-Ship. Single-ship events will be chased.

6.5.5.8. MA Requirements. MA is always single-ship with chase on the initial checkout to a new low-altitude qualification. In tactical formation, MA is flown only by the defensively engaged fighter. MA is achieved by a wings level descent from CTA or above, but never in a turning descent below 500 feet AGL.

6.5.5.9. Verbal Permission. Following a "Knock-it-off", do not resume LASDT A/S without verbal coordination with and specific permission from the IP/FL.

6.5.5.10. Wingman Altitude. At low-altitude, wingman should not fly at a lower AGL than lead.

6.5.5.11. Formations. Formation training below 500 feet AGL will not involve more than two-ship tasks unless flown as autonomous elements, such as box, separated by two NM or more.

6.5.5.12. Maneuvering. Conduct all offensive maneuvering at or above 500' AGL and threat reactions at 300 feet AGL or higher. LASDT AHC will be IAW the MCI 11-F16V5, *F-16 Combat Aircraft Fundamentals,* Low Altitude Training Series exercises.

6.5.5.13. Mountainous Terrain. When crossing high or hilly terrain, maintain positive G and do not exceed approximately 120 degrees of bank until back on the desired flight path. Maneuvering at less than 1 G is limited to upright bunting maneuvers.

6.5.5.14. Grade Sheet. Utilize the low-altitude step-down training grade sheet for all initial sorties. Use the LASDT A/S work sheet to document training received.

6.5.6. Training Objectives:

6.5.6.1. KIO Conditions. Recognize the conditions requiring a "Knock-it-off" response.

6.5.6.2. Threat Response. Perform threat detection and assessment to determine an appropriate defensive response.

6.5.6.3. Perform the following single-ship tasks:

6.5.6.3.1. Straight and level accelerations/decelerations.

6.5.6.3.2. Navigation turns.

6.5.6.3.3. Terrain masking/maneuvering techniques for level, rolling, and rough terrain.

6.5.6.3.4. Basic defensive response.

6.5.6.4. Perform the following tactical formation techniques in two-ship formation:

6.5.6.4.1. Line abreast formation.

6.5.6.4.2. Wedge formation.

6.5.6.4.3. Tactical formation defensive maneuvers:

6.5.6.4.3.1. Formation accelerations (military/maximum).

6.5.6.4.3.2. Navigational turns.

6.5.6.4.3.3. Terrain masking.

6.5.6.4.3.4. Basic defensive turns. Accomplish ground training with a 302 FS/DOW instructor prior to flying. 302 FS/DOW will brief the following in detail:

6.5.6.4.3.4.1. Low-altitude philosophy.

6.5.6.4.3.4.2. Aircraft handling and performance characteristics for Category III aircraft.

6.5.6.4.3.4.3. Environmental factors.

6.5.6.4.3.4.4. Low altitude navigation.

6.5.6.4.3.4.5. Tactical formation.

6.5.6.4.3.4.6. Threat awareness.

6.5.7. Flight Training:

6.5.7.1. 500 feet AGL proficiency. Proficiency down to 500 feet is accomplished in MQT training and all pilots are certified to 500 feet before being declared MR.

6.5.7.2. Training Missions:

6.5.7.2.1. LASDT A/S-1--500 feet Single-ship/chase (2 x F-16C; crew: IP/FL, UP; time: 1.2; configuration: external tank(s) desired).

6.5.7.2.1.1. Mission Objectives. Demonstrate proficiency first in single-ship maneuvering, then in two-ship maneuvering in the low altitude environment down to a minimum altitude of 500 feet AGL.

6.5.7.2.1.2. Specific Mission Tasks. AHC IAW MCH 11-F16V5, Low Altitude Training Series exercises (level turn exercise, turning room demo, acceleration/deceleration exercise, descent awareness training, CAT III maneuvering, vertical jink turns, orthogonal SAM break, reversals, visual lookout exercise); g-awareness exercise; low level navigation; airspeed control; fuel management; low level turns; ridge crossings; terrain masking and maneuvering techniques for level/rolling/rough terrain; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; two-ship weather route abort; single-ship low altitude tactical intercepts; two-ship low altitude tactical intercepts and low altitude weapons employment considerations.

6.5.7.2.1.3. Special Instructions. Perform single-ship tasks prior to performing two-ship maneuvers. Two-ship low altitude tactical intercepts may be performed on LASDT-A/A-1. Mission may be flown as a four-ship accomplishing separate simultaneous upgrades.

6.5.7.2.2. LASDT-A/S-2--300 feet Dual or Single-ship w/chase (2 x F-16C or F-16D; crew: IP/FL, UP or UP/FL; time: 1.2; configuration: external tank(s) desired):

6.5.7.2.2.1. Mission Objectives. Demonstrate proficiency in single-ship maneuvering in the low altitude environment down to a minimum altitude of 300 feet AGL.

6.5.7.2.2.2. Specific Mission Tasks. AHC IAW MCH 11F16V5, Low Altitude Training Series exercises; g-awareness exercise; low level navigation; airspeed control; fuel management; low level turns; ridge crossings; terrain masking/maneuvering techniques for level/rolling/rough terrain; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; single-ship low altitude tactical intercepts.

6.5.7.2.2.3. Special Instructions. Mission tasks not accomplished on LASDT-A/S-2 may be accomplished on LASDT-A/S-3.

6.5.7.2.3. LASDT A/S-3--300 feet two-ship (2 x F-16C; crew: IP/FL, UP; time: 1.2; configuration: external tank(s) desired).

6.5.7.2.3.1. Mission Objectives. Demonstrate proficiency in two-ship maneuvering in the low altitude environment down to a minimum altitude of 300 feet AGL.

6.5.7.2.3.2. Special Mission Tasks. AHC IAW MCH 11-F16V5, Low Altitude Training Series exercises not flown on previous sorties or needing review; g-awareness exercise; low level navigation; fuel management; low level turns; LATF; terrain masking maneuvering techniques for level/rolling/rough terrain; ridge crossings; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; weather route abort; two-ship low altitude tactical intercepts and low altitude weapons employment considerations.

6.5.7.2.3.3. Special Instructions. Two-ship low altitude tactical intercepts may be performed on LASDT-A/A-3. Mission may be flown as a four-ship accomplishing separate simultaneous upgrades.

6.6. Low-Altitude Step-Down Training Air-to-Air (LASDT A/A) Program:

6.6.1. General:

6.6.1.1. Safety. The LASDT A/A program is designed to safely conduct air-to-air step-down training both offensively and defensively at low altitude.

6.6.1.2. Progression. Progression through the step-down program is based on IP/FL assessment of pilot performance, TR compliance, airmanship, and judgment.

6.6.1.3. Certification. Upon completion of this program, 302 FS and wing pilots will be knowledgeable of low-altitude F-16 Category I handling and performance characteristics, and demonstrate proficiency in offensive and defensive tactical formations; low-altitude intercepts; air-to-air navigation techniques, offensive and defensive threat acquisition, assessment, and responses; and be certified to fly LOWAT down to 500 feet or 300 feet AGL as current instructions permit.

6.6.2. General Instructions:

6.6.2.1. Governing Instruction. Conduct LASDT A/A as prescribed in AFI 11-2F-16V1.

6.6.2.2. Pilot Qualifications. The Squadron Commander will approve pilot entry into the LASDT A/A program.

6.6.2.3. Previous Checkout. The squadron may accept documented LASDT certification and LOWAT qualifications from other units/commands. With SQ/CC approval, low altitude training conducted at a formal course may be used to fulfill LASDT and LOWAT qualifications.

6.6.2.4. Supervision. Step-down training sorties are supervised by a LASDT IP or FL who has been certified by the squadron commander.

6.6.2.5. Minimum Altitude Clearance. The altitude to which a pilot is certified (minimum is 300 feet AGL over land and 500 feet AGL over water) is determined by the lowest altitude at which all tasks can be satisfactorily performed and proficiency in performing LOWAT events can be consistently demonstrated.

6.6.2.6. Performance Criteria. If substandard performance is demonstrated, the squadron commander will direct additional training or terminate training as appropriate.

6.6.2.7. Grade Sheet. Utilize the low-altitude step-down training grade sheet for all initial LASDT A/A sorties. Use the low-altitude step-down training work sheet to document training received, certification to fly LOWAT, and/or certification to supervise LASDT A/A sorties.

6.6.2.8. IP/FLs will not advance pilots who exhibit a tendency to not recognize recovery capability or make repeated violations of minimum altitudes/airspeed/G restrictions on tactical intercept conversions at 1,000 feet AGL and below.

6.6.2.9. Alternate Mission. Do not fly LASDT A/A as an alternate mission. Compatible A/A events may be flown during LASDT A/A checkout sorties, so long as the objectives of the LASDT sorties are met.

6.6.3. TR. Training rules are as listed in AFI 11-2F-16V1, and must be briefed prior to flying LOWAT scenarios.

6.6.4. Airspeed Restrictions. Minimum airspeeds are as listed in MCI 11-F16V3, *Pilot Operational Procedures – F-16*, (350 KIAS offensive and defensive maneuvering).

6.6.5. Ground Training. Ground training includes all items listed for air-to-surface in paragraph 6.5 of this instruction and the following low-altitude intercept subjects.

6.6.5.1. Radar capabilities.

6.6.5.2. Line-of-sight problems.

6.6.5.3. False targets/Electronic Counter Countermeasures (ECCM) false lock-on problems.

6.6.5.4. Sorting/sampling techniques.

6.6.5.5. Intercept types high-to-low/offset/co-altitude/snap-up.

6.6.5.6. Altitude/airspeed/power considerations.

6.6.5.7. Slow/medium/high-speed targets.

6.6.5.8. Conversion techniques.

6.6.5.9. Use of HUD/radar during intercept/conversions.

6.6.5.10. Use of heading vs aspect angle information.

6.6.5.11. Weapons envelopes and rules of thumb.

6.6.5.12. Flight Training:

6.6.6. Sortie Requirements. The LASDT A/A program consists of at least three sorties (LASDT A/A-1, LASDT A/A-2, and LASDT A/A-3). More sorties may be allocated if desired.

6.6.6.1. LASDT A/A-1 waiver if 300' AGL currency is maintained. Pilots who have successfully completed LASDT A/S-3 in the LASDT A/S program need not accomplish LASDT A/A-1.

6.6.6.2. LASDT-A/A-1--500 feet single-ship w/chase and two-ship (3/4 x F-16C; crew: IP/FL, UP, IP/FL/MP, MP/UP; time: 1.2; configuration: clean/tanks, AIM-9M.

6.6.6.2.1. Mission Objectives. Demonstrate proficiency first in single-ship maneuvering, then in two-ship maneuvering in the low altitude environment down to a minimum altitude of 500 feet AGL.

6.6.6.2.2. Special Mission Tasks. LASDT A/S-1 mission tasks as deemed necessary by the IP/FL to include unaccomplished tasks. If available, introduce two-ship maneuvering against a low/slow target such as a helicopter or an A-10. Emphasis should be placed on threat VID procedures IAW AFTTP 3-1V2, *Threat Reference Guide and Countertactics*.

6.6.6.2.3. Special Instructions. Mission may be flown as a four-ship accomplishing separate simultaneous upgrades. Low/slow target intercepts are not required to accomplish this mission or LASDT upgrade, but should be accomplished as part of pre-deployment spin-up training in support of contingency operations or exercises.

6.6.6.3. LASDT A/A-2--300 feet single-ship w/chase (2 x F-16; crew: IP/FL, UP; time: 1.2; configuration: clean/center tank, AIM-9M):

6.6.6.3.1. Mission Objectives. Demonstrate proficiency in single-ship maneuvering in the low altitude environment down to a minimum altitude of 300 feet AGL.

6.6.6.3.2. Specific Mission Tasks. LASDT A/S-2 mission tasks as deemed necessary by the IP/FL plus any unaccomplished tasks. Additional tasks include practicing single-ship tactical

intercepts/conversions to missile and gun parameters against targets as low as 300 feet AGL; low altitude tracking of straight and level and turning targets; low altitude tracking or snap-shot exercise against a target at medium to high speed; single-ship defensive reaction to bandit at high, medium, and low aspect/angle off; defensive climbing hard turns; and utilization of chaff/flares (desired).

6.6.6.3.3. Special Instructions. Unaccomplished tasks may be completed on LASDT A/A-3.

6.6.6.4. LASDT A/A-3--300 feet two-ship (3/4 x F-16; crew: IP/FL, UP, IP/FL/MP, MP/UP; time: 1.2; configuration: clean/center tank, AIM-9M):

6.6.6.4.1. Mission Objectives. Demonstrate proficiency in two-ship maneuvering in the low altitude environment down to a minimum altitude of 300 feet AGL.

6.6.6.4.2. Specific Mission Tasks. Review/accomplish LASDT A/A-1 and 2 tasks as appropriate; two-ship tactical intercepts versus a single bandit, two-ship low altitude intercepts versus a single higher altitude bandit; tow-ship defensive reactions at low altitude versus a single bandit; single-ship tactical intercepts versus a two-ship (desired); and formation tactical intercepts versus a two-ship (desired).

6.6.6.4.3. Special Instructions. Tactical intercepts versus a tow-ship not required to complete upgrade. Number three must be 300 feet capable and qualified for defensive reactions. For scheduling effectiveness, a non-maneuvering two-ship may be substituted for a single. Mission may be flown as a four-ship accomplishing separate simultaneous upgrades.

6.7. Flight Lead Upgrade Training:

6.7.1. General. This program is designed to prepare designated pilots to lead and employ tactical maneuvers on all missions for which the squadron normally trains. Conduct the program as prescribed in AFI 11-2F-16, Vol 1, and this instruction. The squadron commander or operations officer selects highly qualified pilots for the upgrade program based on experience, judgment, knowledge, skill, and leadership potential. Upon completion of this program, a pilot is considered a flight lead capable of leading any size flight.

6.7.2. General Instructions:

6.7.2.1. Hour Requirement. Minimum hours required to enter the Flight Lead upgrade program are specified in Chapter 6 of AFI 11-2F-16V1.

6.7.2.2. Ground Training. Accomplish required ground training prior to flights.

6.7.2.3. Overall Program. Consistent with flight safety, the squadron commander or operations officer may authorize deviations to the training syllabus to adjust for unusual weather, local scheduling, difficulties, UP progress, or previous experience. The overall program is coordinated with the 302 FS/DOT, and documented in the UP's training folder.

6.7.2.4. Timeliness. The program will progress in a manner that will allow the pilot to progress through training with no long term lapses between flights. The operations officer will add proficiency sorties as necessary based upon his judgment as to each individual's abilities to meet the demands of the program after a lapse of flying. The pilot may also request additional sorties.

6.7.2.5. Responsibilities. The UP will brief, lead, and debrief all flight lead upgrade missions.

6.7.2.6. Clearance to Lead. Once a flight lead has satisfactorily led a particular type of flight (i.e., surface attack) and he has been previously qualified as a flight lead or instructor pilot; prior to the flight lead certification sortie, he is cleared to lead that type of flight only.

6.7.2.7. Supervision. Flight lead UPs require the supervision of an IP or experienced flight lead-qualified flight commander or higher level supervisor for each sortie/event.

6.7.2.8. Scenario Profiles. Normally, continuation training profiles are used and other members of the flight will not be receiving instruction. Deviations are permitted with squadron commander or operations officer approval.

6.7.2.9. Grade Sheet. Complete a flight lead grade sheet for all upgrade missions. An overall minimum grade of two is required and all mission objectives require the same minimum level. Use the flight lead upgrade work sheet for training folder documentation for all ground and flying training accomplishments.

6.7.2.10. Techniques. Although the UP does not have to instruct, briefings, flight conduct, and debriefings should include procedures and techniques sufficient to demonstrate his capability to lead new MR wingmen.

6.7.2.11. Certification Sortie. The flight lead certification ride is administered by the squadron commander or designated representative. Anyone other than the squadron commander conducting the certification will debrief the squadron commander and/or operations officer on the results and any recommendations.

6.7.3. Ground Training:

6.7.3.1. DOT Brief. Prior to his first flight in the program, 302 FS/DOT briefs the UP on all prerequisites and AFORMS products pertinent for flight leads.

6.7.3.2. Briefings from a squadron instructor (see DOW for FLUG briefing guide) include:

6.7.3.2.1. Academics. Flight lead academics include the flight lead mission guide (paragraph E this section).

6.7.3.2.2. Computers. Use of weapons computers for mission planning.

6.7.3.2.3. Printouts. Weapons requirements computer printouts.

6.7.3.3. Squadron Commander Briefing. After the certification flight, the squadron commander briefs the new flight leads on their responsibilities, duties, authority, and limitations if any.

6.7.4. Flight Training:

6.7.4.1. Sorties. Listed below are the sorties to be flown by upgrading flight leads. They may be flown in any order as aircraft/configuration capability allows, and may be repeated to achieve desired proficiency. Two formation takeoffs and landings as the lead aircraft are required. Four-ship air refueling is required (fewer than four-ship refueling requires approval from the operations officer). The air refueling and formation takeoffs and landings may be accomplished on any mission as long as the requirements met.

6.7.4.2. Mission Scenarios:

6.7.4.2.1. FL-1 (2 x F-16s 1v1 offensive and defensive BFM). Recommend use of CT profiles BFM-1 and BFM-2 together.

6.7.4.2.2. FL-2 (2 x F-16s 1v1 high aspect BFM). Recommend use of CT profile BFM-3.

6.7.4.2.3. FL-3 (3 x F-16s 2v1 defensive ACM). Recommend use of CT profile ACM-1.

6.7.4.2.4. FL-4 (4 x F-16s 2v2 tactical intercepts). Recommend use of CT profile AI-3.

6.7.4.2.5. FL-5 (4 x F-16s 2v2 air combat tactics). Recommend use of CT profile OCA-1.

6.7.4.2.6. FL-6 (2 x F-16s weapons delivery). Recommend use of CT profile SA-1.

6.7.4.2.7. FL-7 (4 x F-16s battle area tactics). Recommend use of CT profile SA-2.

6.7.4.2.8. FL-8 (2 x F-16s surface attack tactics). Recommend use of CT profile SAT-2.

6.7.4.2.9. FL-9 (4 x F-16s surface attack tactics). Recommend use of CT profile SAT-9.

6.7.4.2.10. FL-10 Flight lead certification (4 x F-16s). Recommend use of CT profile SAT-10.

NOTE: This certification flight includes a realistic cross section of the mission(s) that the flight lead will be expected to lead.

6.7.5. Upgrade Flight Lead Mission Planning Guide:

6.7.5.1. Flight Lead Responsibilities:

6.7.5.1.1. Premission planning: Determine qualifications of flight members; mission requirements; GCI coordination frequencies; IFF, AAR, and scenario; aircraft configuration; weather, airspace reservations; range schedule; prepare documentation.

6.7.5.1.2. Mission planning references: AFTTP 3-1 V5, *Tactical Employment F-16*, MCI 11-F16V3, FCF, and CAPS.

6.7.5.2. Briefing: Use appropriate briefing guides and visual aids. Cover all items for assigned mission. Discuss mission objectives and special interest items. Allow time for element briefings. Ensure wingman responsibilities are understood; weather, emergencies, degraded systems, etc. Stress flight discipline. Involve other flight members and tailor the briefing to the least experienced member. Review objectives at the end of the briefing. Adjust step, start, and takeoff times if additional briefing time is required to cover essential information.

6.7.5.2.1. In Flight: Accomplish the mission safely. Exercise decisive control of the mission at all times. Make on-the-spot corrections when needed. Report deviations/problems immediately. Think and plan ahead. If you doubt the legality or discretion of a particular course of action, don't do it! If you have questions about anything, ask the operations officer or commander BEFORE YOU FLY. Be keenly aware of what other flight members are doing at all times, and adjust mission content/events accordingly. Do not get so engrossed in what others are doing that you put yourself in a undesired situation.

6.7.5.2.2. Debrief: Prepare notes/tapes prior to beginning debrief. Exercise control. Cover deviations from the plan. Solicit discussion. Review performance based on briefed objectives. Complete documentation.

6.7.5.2.3. Common flight lead errors: Insufficient knowledge of flight member's abilities and their requirements. Crowding too much into a mission. Not staying ahead of the situation.

6.8. Instructor Pilot Upgrade Training:

6.8.1. General. Conduct this program as prescribed in AFI 11-2F-16V1; and this instruction. The squadron commander or operations officer will select highly qualified flight leads who demonstrate sound judgment, technical knowledge, skill, ability to instruct, and experience. Upon completion of a Stan/Eval evaluation as prescribed in AFI 11-2F-16V1 and 944 FWI 11-402, the upgrading instructor pilot (UIP) will be certified by the Squadron Commander as an instructor.

6.8.2. General Instructions:

6.8.2.1. Hour Requirements. For entry into this program, the pilot must be a flight lead, and meet AFI 11-2F-16V1 entry requirements (as waivered).

6.8.2.2. Ground Training. Accomplish ground training as required prior to flight as an UIP.

6.8.2.3. Deviations. Consistent with flying safety, the squadron commander or operations officer may authorize deviations to the training syllabus to adjust for unusual weather, local scheduling difficulties, UP progress, or previous experience. It is ideal, however, to progress the UP through each block before progressing to the other (that is surface attack then air-to-air). The

squadron commander or operations officer notifies 302 FS/DOT of the specific program who will then annotate the program in the UP's training folder.

6.8.2.4. Timeliness. The program will progress in a manner that will allow the pilot to progress through training with no long-term lapses between flights. The operations officer will add proficiency sorties as necessary based upon his judgment as to each individuals abilities to meet the demands of the program after a lapse of flying. The pilot may also request additional sorties.

6.8.2.5. Leadership. The UP briefs, leads, and debriefs all UIP missions.

6.8.2.6. Supervision. IP UPs require the supervision of an IP on all flights.

6.8.2.7. Selected Deviations. Normally, other members of the flight should not be receiving an instructional upgrade mission. However, deviations are permitted with squadron commander or operations officer approval.

6.8.2.8. Grade Sheet. Complete an instructor upgrade grade sheet for all upgrade missions. An overall grade of two is required and all mission objectives require the same minimum level. Use the instructor pilot upgrade work sheet for training folder documentation for all ground and flying training accomplishments.

6.8.2.9. Proficiency. Instructional proficiency is recognized as highly subjective, but is evaluated according to the UP's ability to instruct and conduct IQT/MQT training with an IQT/MQT UP of normal experience entering the unit.

6.8.2.10. Certification. After pilots complete their instructor flight evaluation and prior to performing duties as an instructor, the instructor upgrade program work sheet and AF Form 8 must be signed by the Squadron Commander or designated representative.

6.8.2.11. Timely Completion. Circumstances may preclude timely completion of all instructor upgrade requirements such as AAR, Deployable Aerial Reflective Target (DART), transition, and the like. In this event, the 302 FS/DO may authorize limited instructor duties provided a flight evaluation and all other course criteria are satisfactorily completed. These limitations are annotated on the instructor's certification forms. Prior to instructing in non-certified areas, the individual must receive proper training, evaluation, and certification.

6.8.3. Ground Training (DOV). Instructor academics consist of programmed texts and handouts (if available), video tapes and briefings on instructor techniques/procedures. (See 944 OG/DOV for Instructor Pilot Upgrade (IPUG) briefing guide.) Areas covered will include the following:

6.8.3.1. Transition (given only if the UIP is to instruct in IQT).

6.8.3.2. Surface attack.

6.8.3.3. Air-to-air.

6.8.3.4. Principles of instruction.

6.8.3.5. Conduct of flight briefings.

6.8.3.6. Conduct of special academic presentations.

6.8.3.7. Conduct of flight/techniques for airborne instruction.

6.8.3.8. Conduct of flight debriefings.

6.8.3.9. Student evaluations/training folder review and preparation.

6.8.4. Flight Training:

6.8.4.1. IP-1 and 2. IP-1 and IP-2 need only to be flown by those UIPs who will be instructing in IQT/REQUALIFICATION.

6.8.4.2. Sortie Flow. Phases may be flown as aircraft/configuration capabilities allow.

6.8.4.3. Specialty Sorties. Night transition, and Maverick are flown when assets/scheduling allows. AAR may be flown on any mission.

6.8.4.3.1. Mission Scenarios:

6.8.4.3.1.1. IP-1 Day Transition. (F-16D, F-16C; time: 1.5; crew: IP/UIP, MP; configuration: clean/ exterior tank): Mission Objectives. Introduce the UIP to instructing F-16 advanced handling characteristics, avionics displays and functions, confidence maneuvers, AAR rendezvous/AAR (if available), formation work, rejoins and instrument procedures, Instrument approaches/landings, SFO's, normal VFR overhead patterns and landings will be conducted from a chase position.

6.8.4.3.1.2. IP-2 Night transition (F-16D, F-16C; time: 1.5; crew: IP/UIP, MP; configuration: clean/ exterior tank):

6.8.4.3.1.2.1. Mission Objectives. Introduce the UIP to instructing at night in basic formation, intercepts, NAAR, practice instrument approaches, and landing.

6.8.4.3.1.2.2. Specific Mission Tasks. Briefing, rear cockpit takeoff, radar trail departure, join-up, tanker rendezvous, NAAR, basic formation practice, pitchouts and rejoins, intercepts, split for instrument approaches, full stop landing, and debriefing.

6.8.4.3.1.3. IP-3 BFM: (2 x F-16C; time: 1.2; crew: UIP, IP; configuration: AIM-9M):

6.8.4.3.1.3.1. Mission Objectives. Introduce the UIP to instructing weapons system checks, within visual range 1v1 basic fighter maneuvers, weapons delivery parameters and debriefing common BFM errors.

6.8.4.3.1.3.2. Specific Mission Tasks. Briefing, formation departure, weapons system check, within visual range setups for BFM maneuvers, recovery, chase in traffic pattern, landing, and debriefing (recommend a combination of CT profiles of AA-1, AA-2 and AA-3 in Chapter 5 of this instruction).

6.8.4.3.1.4. IP-4 1v1 Intercepts (2 x F-16s; time: 1.5 crew: UIP, IP; configuration: clean, exterior tanks, AIM-9M):

6.8.4.3.1.4.1. Mission Objectives. Introduce the UIP to instructing gun and missile exercises, basic, and tactical 1v1 intercepts.

6.8.4.3.1.4.2. Specific Mission Tasks. Briefing, formation departure, weapon system checks, fence check, gun and missile exercises, beyond visual range intercepts, self-setup intercepts, basic (co-altitude) and tactical (vertical splits) intercepts, recovery, landing, and debriefing (recommend combinations of AI-1 and AI-2 scenarios in Chapter 5 of this instruction).

6.8.4.3.1.5. IP-5 ACM (2 x F-16C, TGT; time: 1.1; crew: UIP, IP, MP; configuration: AIM-9M):

6.8.4.3.1.5.1. Mission Objectives. UIP practice instructing and controlling 2v1 tactical intercept(s) to an offensive engagement against a similar/dissimilar aircraft. From a self-setup, introduce the UIP to instructing two-ship offensive and counteroffensive engagements against a single aircraft.

6.8.4.3.1.5.2. Specific Mission Tasks. Briefing, takeoff, weapons system check, tactical formation, tactical intercept(s), offensive and counteroffensive engagements, combat separations, recovery, landing, debriefing (recommend combinations of ACM-1 and ACM-2 profiles in Chapter 5 of this instruction).

6.8.4.3.1.6. IP-6 Tactical intercepts: (2 x F-16s; time: 1.3; crew: UIP, IP, FL, MP; configuration: clean/ exterior tank, AIM-9M):

6.8.4.3.1.6.1. Mission Objectives. Introduce the UIP to briefing, controlling and debriefing a 2v2 tactical intercept scenario; and be able to instruct the wingman in his flight while airborne.

6.8.4.3.1.6.2. Specific Mission Tasks. Face-to-face briefing, separate element brief, takeoff, weapons system check, fence check, varied tactical formations, sweep versus sweep tactical intercepts, sweep versus CAP tactical intercepts, at least one self-setup tactical intercept with no GCI support, approach, landing, and debrief (recommend CT profile AI-3 in Chapter 5 of this instruction).

6.8.4.3.1.7. IP-7 ACT/DACT (2 x F-16s, 2 x Targets; time: 1.1; crew: UIP, IP, Tgt, Tgt; configuration: clean, AIM-9,):

6.8.4.3.1.7.1. Mission Objectives. Introduce the UIP to instructing and controlling 2v2 engagements in a sweep versus sweep and sweep versus CAP environment, with full GCI for UIP.

6.8.4.3.1.7.2. Specific Mission Tasks. Adversary and/or GCI coordination brief, element brief, takeoff, weapons system check, fence check, tactical formation, use of full GCI in sweep environment versus a sweep/CAP threat, kill criteria, kill removal, control of fight, recovery, landing, and debriefing (recommend CT profile OCA-1 in Ch 5 of this instruction and accomplished on an ACMI range if available).

6.8.4.3.1.8. IP-8 ACT/DACT (2 x F-16s, 2 x Targets; time: 1.1; crew: UIP, IP, Tgt, Tgt; configuration: clean, AIM-9M):

6.8.4.3.1.8.1. Mission Objectives. Introduce the UIP to instructing and controlling 2v2 engagements in a CAP versus sweep and CAP versus fighter/bomber environment. GCI is limited to broadcast control with full-up kill removal.

6.8.4.3.1.8.2. Specific Mission Tasks. Face-to-face briefing, element brief, takeoff, weapon system check, fence check, tactical formation, use of limited and no GCI in a CAP environment versus a sweep threat or fighter/bomber threat, kill criteria, kill removal, control of fight, recovery, landing, and debriefing (recommend CT profile DCA-1 in Chapter 5 of this instruction and accomplished on an ACMI range if available).

6.8.4.3.1.9. IP-9 SA (2-4 x F-16C; time: 1.4; crew: UIP, IP, FL, MP; configuration: exterior tank(s), 6xBDU-33):

6.8.4.3.1.9.1. Mission Objectives. Introduce the UIP to instructing surface attack missions on a controlled range; low-level navigation and formation; and conventional weapons delivery.

6.8.4.3.1.9.2. Specific Mission Tasks. Briefing, takeoff, weapons system check, fence check, LATN, LATF, weapons deliveries using curvilinear and pop-up patterns, chase pop-up pattern, recovery and landing, and debriefing (recommend CT profile SA-1 in Chapter 5 of this instruction).

6.8.4.3.1.10. IP-10 Maverick (2-4 x F-16s; time: 1.2; crew; UIP, IP, FL, MP; configuration: exterior tank(s), TGM-65B/D):

6.8.4.3.1.10.1. Mission Objectives. Introduce the UIP to instructing surface attack missions utilizing AGM-65 ordnance, systems orientation; roll-in, track, and lock-on techniques; and recognition of sun angle and shadow development.

6.8.4.3.1.10.2. Specific Mission Tasks. Briefing; takeoff; weapons system checks; fence checks; basic wheel patterns; tactical deliveries in a high-threat environment using line, bearing, and shooter cover formations; chase patterns; pop-up patterns; approach and landing; and debriefing (recommend CT profile MAV-2 in Chapter 5 of this instruction).

6.8.4.3.1.11. IP-11 SAT (4 x F-16s; time: 1.2; crew: UIP, IP, FL, MP; configuration: exterior tank(s), 6xBDU-33):

6.8.4.3.1.11.1. Mission Objectives. Introduce the UIP to instructing and controlling tactics in a medium threat environment, pop-up deliveries, low threat deliveries, road RECCE, and threat reactions.

6.8.4.3.1.11.2. Specific Mission Tasks. Briefing, takeoff, weapons system check, fence check, LATN, LATF, pop-up attacks, low-threat deliveries, road RECCE, threat acquisition and response, recovery, landing, and debriefing (recommend CT profile SAT-2 in Chapter 5 of this instruction)

6.8.4.3.1.12. IP-12 SAT: (4 x F-16s; time: 1.2; crew: UIP, IP, FL, MP; configuration: exterior tank(s) and six BDU-33):

6.8.4.3.1.12.1. Mission Objectives. Introduce the UIP to instructing and controlling a tactics mission in a high threat environment, EW profile(s), and threat reactions.

6.8.4.3.1.12.2. Specific Mission Tasks. Briefing, takeoff, weapons system check, fence check, LATN, LATF, coordinated attacks, low-altitude egress, re-attack options, EW profiles, surface and air threat reactions, recovery, landing, and debriefing (recommend CT profile SAT-3 in Chapter 5 of this instruction).

6.8.4.3.1.13. IP-Check. Unit mission scenario: (4 x F-16s; time: 1.2; crew: UIP, SEFE, FL, MP; configuration: exterior tank(s), and six BDU-33):

6.8.4.3.1.13.1. Mission Objectives. Adequately brief, lead, and debrief a unit mission scenario as an instructor.

6.8.4.3.1.13.2. Specific Mission Tasks. Brief; lead an opposed SAT scenario as an instructor. Ensure desired learning objectives are achieved in flight and debriefed.

6.9. Range Control Certification:

6.9.1. Range Control Officer (RCO). Accomplish range control officer training for Class A ranges as prescribed in AFI 13-212V2, *Weapons Range Management***.**

6.10. Supervisor of Flying Certification. Accomplish this training as prescribed in MCI 11-463 as supplemented.

6.11. Targeting Pod (TGP)/Laser-guided Bomb (LGB) Upgrade Training:

6.11.1. General. TGP/LGB training will improve the combat capability of pilots by training them in the use of laser guided munitions and TGP employment for both day and night air-to-air and air-to-ground missions from medium altitude.

6.11.1.1. Academics. Accomplish the entire academic program before accomplishing the flying training portion of the TGP/LGB upgrade program.

6.11.1.2. Supervision. A TGP qualified instructor or squadron commander designated flight lead is required for TGP/LGB training.

6.11.1.3. Continuity. If a break in training exceeds 14 days, the squadron commander may authorize additional sorties.

6.11.1.4. Prerequisites. The following prerequisites are required.

6.11.1.4.1. Currency. UP must be current in night landings, day/night weapons delivery, and demanding mission.

6.11.1.4.2. Knowledge. UP must review and be familiar with TGP operation and basic tactics.

6.11.2. Ground Training. Academics for TGP/LGB upgrade training consists of the following: TGP phase briefing, IR theory and TGP mission planning, basic TGP academics, TGP ground operations and limitations, TGP navigation functions, TGP/LGB attacks from medium altitude, TGP buddy-lase tactics, and TGP A/A utilization. Upgrade pilots also must read the TGP phase manual.

6.11.3. Flight Training:

6.11.3.1. TGP-1: Basic Targeting Pod Procedures/Orientation/LGB Tactics Intro. (2 x F-16C; time: 1.5; crew: IP, UP; configuration: 1 x AIM-9, TGP, centerline or wing tanks, safe gun, and un-carted station at 3, 4, 6 or 7).

6.11.3.1.1 Mission Objectives. Introduce TGP specific planning including podium effect considerations, TGP terminology, components, and switchology, TGP preflight and ground ops, in-flight TGP care, setup/tuning/focusing, slews, fixes, Altitude Calibration (ACAL's), and marks, LGB pacing for effective tactical employment to include egress priorities/switchology. Assess various real-world to FLIR-world transitions, target ID pre/post release, A-A TGP use throughout an intercept, and formation responsibilities for day-medium altitude, low-threat, simultaneous LGB attacks.

6.11.3.1.2. Specific Mission Tasks. TGP mission planning, TGP ground ops, takeoff/departure, weapons system checks, TGP fence-in, tuning/focusing, slews, fixes, ACALs and marks, LGB attacks/egress, 1 v 1 intercept(s), bomb/battle damage check, in-flight report, and recovery/landing.

6.11.3.1.3. Special Instructions. This mission may be flown without an IP TGP post start; IP jet should suffice as an UP spare at step. This mission will be conducted over land in a MOA or tactical range with no broken or undercast decks below 15,000' AGL and with 18 to 25 nm attack run-in airspace.

6.11.3.2. TGP-2: TGP Tactical Employment/Inert LGB Employment/Self and Buddy Lase. (2 x F-16C; time: 1.5; crew: IP, up; configuration: 1 x AIM-9, TGP, centerline or wing tanks, safe gun, inert GBU-12(s)).

6.11.3.2.1 Mission Objectives. Demonstrate proficiency in LGB attack pacing. Practice element LGB first-run attack with DMPI discrimination within LGB hit criteria and buddy-lase attacks/tactics. Introduce GBU-10/12 preflight and GBU-24 attacks/tactics. Assess actual LGB impact versus operator errors and GBU-24 self-lase versus buddy-lase requirements.

6.11.3.2.2. Specific Mission Tasks. Ground operations to include TGP checks and preflight, takeoff/departure, weapons system checks, G warm-up, tactically employ LGB (s) on two self-lase deliveries, tactically employ LGB on one buddy-lase delivery, repeat deliveries at IP discretion, practice dry GBU-24 pass, bomb/battle damage check, inflight report, and recovery/landing.

6.11.3.2.3. Special Instructions. This mission will practice medium altitude tactical deliveries with LGBs (GBU-12s desired) if available. Flight members must brief combat laser settings and restrictions.

6.12. Night Vision Goggle (NVG) Upgrade Training.

6.12.1. General. NVG training will improve combat capability by training pilots in the use of NVGs to perform mission tasks currently performed without the benefit of night vision devices. With the exception of the enhanced ability to fly with highly increased awareness in visual formations, current night tactics and employment techniques for the F-16 remain unchanged with NVGs. The emphasis on proper crosschecks, effective radar use, closure control, and altitude/situation awareness that is stressed during non-NVG night flying, becomes even more crucial when flying with NVGs in close proximity to the ground and/or other aircraft.

6.12.1.1. Academics. Accomplish the entire academic program before accomplishing the flying training portion of the NVG upgrade program.

6.12.1.2. Supervision. A NVG qualified instruction is required for NVG training. The rate of upgradees to instructors is 1:1.

6.12.1.3. Continuity. If a break in training exceeds 14 days, the squadron commander may authorize additional sorties.

6.12.1.4. Equipment. All upgrade sorties will be flown with both the UP and IP wearing NVGs.

6.12.1.5. Prerequisites. The following prerequisites are required:

6.12.1.5.1. Currency. UP must be current in night landing, night weapons delivery, night AAR, and demanding mission, NVG academics with an approved instructor must have been completed within 60 days of beginning NVG flying upgrade training.

6.12.1.5.2. Knowledge. UP must review and be familiar with aircraft interior and exterior lighting panels and operation. UP must also read the NVG phase manual and the F-16 NVG TD & E.

6.12.1.5.3. NVG IP Qualification. Prior to acting as an NVG IP, three more NVG sorties must be flown after the seven ride upgrade. The three additional NVG sorties doe not have to be flown with an IP.

6.12.2. Ground Training. Academics for NVG upgrade training consists of the following: NVG phase briefing, basic NVG academics, NVG adjustment and assessment, F-16 NVG interface, F-16 NVG formation, NVG A/A employment, and F-16 NVG A/G employment.

6.12.2.1. CFT-1: NVG Orientation (MTT; time: 1.0; crew: IP, UP (s); equipment: helmet and NVGs with a spare battery in the case).

6.12.2.1.1. Mission Objectives. Proficiency is cockpit setup, internal and external lighting panel operation, NVG donning/doffing/stowing procedures, battery change/failure procedures, and EPs with emphasis on ejection.

6.12.2.1.2. Specific Mission Tasks. Stow NVG case, discuss effect of each external lighting panel switch, practice donning/doffing NVG battery change procedures, discuss scan techniques, discuss proper crosscheck, and review post flight procedures.

6.12.2.1.3. Special Instructions. None.

6.12.3. Flight Training.

6.12.3.1. NVG-1: Familiarization (2 x F-16C; time: 1.5; crew: IP, UP; configuration: 1 x AIM-9, AMD pod, flares).

6.12.3.1.1. Mission Objectives. Familiarization with NVGs in all phases of flight. Introduction to NVG adjustment procedures, cockpit preparation, basic information flying skills with a variety of external lighting options, and baseline intercepts to stern conversions.

6.12.3.1.2. Specific Mission Tasks. NVG mission planning, NVG focusing and adjustment, cockpit setup and lighting procedures, takeoff/departure, system check, lead changes, NVG donning/refocusing, single-ship maneuvering with chase, 1 v 1 intercepts, aircraft lighting demonstration, blind exercise with re-acquisition, pitch out to straight ahead rejoin, tactical formations/maneuvering, battle damage check, NVG stowing, and recovery/landing.

6.12.3.1.3. Special Instructions. High illumination is desired for this flight, but not required. Allow extra time for ground ops. Emphasize wingman control of lead’s lights and proper blind procedures.

6.12.3.2. NVG-2: 1 v 1 Intercepts (2 x F-16C; time: 1.5; crew: IP, UP, configuration: AIM-9, AMD pod, chaff/flares).

6.12.3.2.1. Mission Objectives. Proficiency in maintaining tactical formation positions with a variety of external lighting options. Proficiency in baseline intercepts against both high and low-speed targets.

6.12.3.2.2. Specific Mission Tasks. NVG mission planning, NVG focusing/adjustment, cockpit setup and lighting procedures, takeoff/departure, NVG donning/refocusing, G-Awareness, tactical formations/maneuvering, heat to guns exercise (high illumination only), medium altitude baseline intercepts versus medium-speed and slow-speed targets, radar missile defense exercises, battle damage check, NVG stowing, and recovery/landing.

6.12.3.2.3. Special Instructions. NVG-1 must be completed before NVG-2. High illumination is required to complete the heat to guns exercise, but not required to complete the ride.

6.12.3.3. NVG-3: Element Intercepts. (4 x F-16C; time: 1.5; crew: IP, UP, IP or FL, UP or wingman; configuration: AIM-9, AMD pod, chaff/flares).

6.12.3.3.1. Mission Objectives. Proficiency in maintaining Tactical formation position with a variety of external lighting options while executing intercepts. Introduce two-ship intercepts against two targets (one minimum) using NVGs. Both wingman may be UPs as long as two NVG IPs are in the flight.

6.12.3.3.2. Specific Mission Tasks. NVG mission planning, NVG focusing/adjustment, takeoff/departure, NVG donning/refocusing, system check, element medium altitude intercepts versus two targets to include BVR launch and leave, VID single side offset, PID launch and react, and element all aspect missile defense, battle damage check, NVG stowing, and recovery/landing.

6.12.3.3.3. Special Instructions. NVG-2 must be accomplished before NVG-3.

6.12.3.4. NVG-4: Basic Surface Attack – Single Ship Attacks. (2 F-16C; time: 1.5; crew: IP, UP; configuration: 20 mm TP desired, AIM-9, 3 x BDU-33, 1 x TGM-65 D/G, chaff/flares).

6.12.3.4.1. Mission Objectives. Safe conventional night weapons delivery using NVGs on a lighted, class A controlled ranged. Safe low level visual navigation and formation flying wing NVGs.

6.12.3.4.2. Specific Mission Tasks. NVG mission planning, NVG focusing/adjustment, takeoff/departure, NVG donning/refocusing, systems check, g-awareness, low-altitude navigation (1,000 feet AGL minimum, high illumination required), range events, battle damage check, NVG stowing, and recovery/landing.

6.12.3.4.3. Special Instructions. NVG-2 must be completed before NVG-4. High illumination is required for the low-level navigation portion of the mission. This ride can be accomplished in low illumination conditions for the range work only if lighted range targets are available, in which case the low-level navigation must be completed on NVG-5. If a conventional range is

not available, the ride can be flown on a tactics range in high illumination. Single ship CAS attacks can also be flown.

6.12.3.5. NVG-5: Element Attacks. (2 F-16C; time: 1.5; crew: IP, UP; configuration: AIM-9, 20 mm TP desired, 3 x BDU-33, 1 x TGM-65 D/G, chaff/flares).

6.12.3.5.1. Mission Objectives. Proficiency in night NVG element attacks from medium altitude. Proficiency in low-level visual navigation and formation flying using NVGs.

6.12.3.5.2. Specific Mission Tasks. NVG mission planning, takeoff/departure, NVG donning/refocusing, system check, g-awareness exercise, low-altitude navigation, range events, battle damage check, and recovery/landing.

6.12.3.5.3. Special Instructions. NVG 1, 2 and 4 must be completed before NVG-5. This ride requires high illumination if NVG-4 flown low illumination.

6.12.3.6. NVG-FL A/A and A/G. (2-4 F-16C; time: 1.5; crew: UP, IP; configuration: as required).

6.12.3.6.1. Mission Objectives. If A/A, fly NVG-3 as a NVG flight lead with a NVG IP as wingman. If A/G, fly NVG-5 as a NVG flight lead with a NVG IP as wingman. Demonstrate proficiency in effective flight leadership.

6.12.3.6.2. Specific Mission Tasks. As required.

6.12.3.6.3. Special Instructions. No specific illumination level is required beyond what is specified in NVG-3 and NVG-5.

6.12.3.7. NVG-IP A/A and A/G. (2-4 F-16C; time: 1.5; crew: UP, IP; configuration: as required).

6.12.3.7.1. Mission Objectives. If A/A, instruct NVG-3. If A/G, instruct NVG-5, UP will lead with NVG-IP as wingman. Demonstrate proficiency in effective flight instruction.

6.12.3.7.2. Specific Mission Tasks. As required.

6.12.3.7.3. Special Instructions. Completion of NVG1-5 for NVG 1-5 for NVG IP and squadron commander approval required before IP upgrade. Ride can be combined with NVG FL rides. No specific illumination level is required beyond what is specified in NVG-3 and NVG-5. Prior to acting as a NVG IP, three more NVG sorties must be flown after the seven ride upgrade.

6.12.3.8. NVG Air-to-Air Refueling. (2-4 F-16C; time: as required; crew: IP, UP; configuration; as required).

6.12.3.8.1. Mission Objectives. Proficiency in completing NVG rendezvous with tanker and receiving fuel.

6.12.3.8.2. Specific Mission Tasks. Fly to precontact/observation position while on NVGs, remove NVGs and acclimate to non-NVG environment in precontact/observation position, refuel without NVGs, and redonning of NVGs post refueling.

6.12.3.8.3. Special Instructions. Must be NAAR current. Tanker must be in VMC. Sortie may be performed during any NVG upgrade mission.

Chapter 7

MULTI-TASK TRAINER/SITUATION EMERGENCY PROCEDURE TRAINING

7.1. Multi Task Trainer (MTT):

7.1.1. General. The objective of this program is to increase pilot proficiency and knowledge, and to supplement the procedures outlined in AFI 11-2F-16V1. During an IQT program, the MTT provides initial familiarization of tasks before performing them in the aircraft. During MQT and MTT programs the MTT will provide emergency procedures training not achievable in the aircraft. Due to the lack of an Operational Flight Trainer (OFT), all Emergency Procedure Evaluations (EPE) requirements will be accomplished in the MTT.

7.1.2. Requirements.

7.1.2.1. Initial Qualification Training. IQT requirements are as prescribed in AFI 11-2F-16V1, and Chapter 3 of this instruction.

7.1.2.2. Mission Qualification Training. MQT requirements are as prescribed in AFI 11-2F-16 V1, and Chapter 4 of this instruction.

7.2. Situational Emergency Procedures Training.

7.2.1. General. This is a non-evaluative training program designed to increase pilot systems knowledge and maintain proficiency in dealing with system malfunctions. This training is detailed in AFI 11-2F-16V1, paragraph 4.2.5. The following additional procedures apply.

7.2.1.1. Requirements:

7.2.1.1.1. CW/SEPT. A CW SEPT is required once each year in conjunction with Egress/Hanging Harness CW training.

7.2.1.2. Pilot Procedures:

7.2.1.2.1. Location. Without a CFT, pilots will complete the SEPT through monthly UTA flight seminars, or inflight briefings using a scenario separate from the EP-of-the-day. If available, pilots may complete the SEPT session in the MTT.

7.2.1.2.2. Make-up SEPT. Those pilots who make up UTA training may also complete SEPT requirements during UTA film review.

7.2.1.2.3. Documentation. Upon completion of a SEPT, complete the appropriate blocks on the training input form.

7.2.1.3. Responsibilities:

7.2.1.3.1. Flight Commanders. FLT CC's are responsible for preparing scenarios that will be briefed during A/C systems academics at monthly UTA's.

7.2.1.3.2. 944 FW/SE. The safety officer routinely scans reports and documents for scenario inputs. These will be given to FLT/CC's for inclusion.

7.2.1.3.3. 302 FS/DOT. The training officer ensures that SEPT's are scheduled, accomplished and documented.

Chapter 8

SPECIALIZED ACADEMIC TRAINING

8.1 General.

8.1.1. This chapter provides the direction for the overall pilot academic training program as prescribed in AFI 11-2F-16V1. It pertains to all F-16 pilots at the MR and BMC level. BMC pilots will be responsible to attend/review as many of the academic presentations as possible based on availability.

8.1.2. The academic schedule will be outlined in the annual training plan and will follow the planned outline whenever possible.

8.2 Program Objectives:

8.2.1. Combat. Prepare 302 FS F-16 pilots for combat.

8.2.2. Employment. Promote effective F-16 employment through aircraft systems knowledge, tactically sound employment concepts, and munitions knowledge.

8.2.3. Capabilities. Provide pilots with mission essential training in intelligence, electronic combat capabilities, and area of operations data.

8.2.4. Updated Information. Provide pilots with the latest information and tactics on the F-16.

8.3 Requirements:

8.3.1. Tailored. Training will be tailored to fit the unit's needs.

8.3.2. UTA Training. Pilots receive intelligence/weapons and tactics/electronic combat/F-16 general academics each UTA. This ground school will be conducted in sections rather than a concentrated all-day program. Not all subject areas will be taught each UTA.

8.3.3. Additional Training. Additional training may be accomplished through individual study, combat mission profile planning, briefings, "threat of the day" briefs, and video presentations.

8.3.4. Videotaped Sessions. UTA academic presentations will be videotaped. MR pilots not in attendance will be required to make up the academics using video or written material. Normally, this training will be made up on the first day the pilot reports for duty following the UTA.

8.3.5. Testing. Testing of weapons and tactics and electronic combat academic material will be accomplished annually (Goal: semi-annually) to ensure important information is retained. A passing score of 85 percent corrected to 100 percent is required for successful completion. Any pilot failing to achieve this standard will be given self-study material to enhance his knowledge of weak areas, and must successfully pass a retest. Intelligence personnel will also administer

tests to determine if learning objectives have been met. Intelligence and electronic combat tests are produced from the unit master question file. Weapons and tactics tests will be designed to meet the requirements of AFI 11-2F-16V1.

8.4. Responsibilities:

8.4.1. 302 FS/DOT:

8.4.1.1. Point of Contact. Central point of contact for the group academic training program.

8.4.1.2. Quality Control. Responsible for overall quality control of all academic scheduling, presentations, testing, and documentation.

8.4.1.3. Coordination. Coordinates with higher headquarters on all training matters. Coordinate with 302 FS/DOW and 302 FS/DOI for all weapons and intelligence-related ground training. Maintains close liaison with 302 FS/ DOS to ensure effective scheduling and documentation of academic presentations.

8.4.2. The 302 FS/DOW:

8.4.2.1. Coordinate. Coordinates with higher headquarters on all weapons-related matters. Coordinates with group and squadron 302 FS/DOT and 302 FS/DOW on all weapons academic training matters. Coordinates with 302 FS/DOI on intelligence training topics when requirements arise for presentations which interface with intelligence.

8.4.2.2. Manage. Oversee the weapons training program and EC training program and all other weapons academics training.

8.4.2.3. Scheduling. Coordinates the scheduling of all weapons and tactics academics training and testing with 302 FS/DOT and the 302 FS/ADO.

8.4.2.4. Review. Reviews all tactics-related publications/messages and ensures pertinent material is made available at the squadron level.

8.4.3. The group Chief of Intelligence:

8.4.3.1. Requirements. Ensures pilot intelligence training requirements are met.

8.4.3.2. Unit Mission Area. Ensures training is related to the unit's area of operations and associated threats.

8.4.3.3. Coordination. Coordinates with higher headquarters on all intelligence related matters. Coordinates with 302 FS/DOW on all briefings requiring joint presentation (such as threat knowledge and counter tactics).

8.4.4. The 302 FS/DOT:

8.4.4.1. Overall Manager. 302 FS/DOT is the overall manager of the squadron academics program.

8.4.4.2. UTA Scheduling. Publishes the UTA schedule of ground training to be accomplished.

8.4.4.3. Coordination. Coordinates with 302 FS/DOW on all weapons/electronic warfare-related presentations and with DOI for intelligence briefings.

8.4.4.4. Documentation. Documents all academic training accomplishments into the AFORMS computer.

8.4.4.5. Rescheduling. Coordinates with 302 FS/DOS to ensure makeup academics are scheduled, accomplished, and documented.

8.4.5. Academic Instructors:

8.4.5.1. Lesson Planning. Prepare lesson plans as required.

8.4.5.2. Coordination. Coordinate with training/weapons officer for course content, adequacy, visual aids, presentation type and time, test questions (if applicable), and currency.

8.4.5.3. Preparation. Are prepared to instruct.

8.4.6. The pilot:

8.4.6.1. Makeup Training. Is responsible for seeking out and obtaining the required academic presentations for makeup.

8.4.6.2. Makeup Training Documentation. Ensures 302 FS/DOT is aware that makeup academics/testing has been accomplished and documented.

8.5. Intelligence Training.

8.5.1. General. Pilot intelligence training is conducted on those subjects listed in AFI 11-2F-16 V1, and specific topics and areas of interest brought forth by pilots/intelligence personnel. This training is Category I training and must be accomplished to maintain MR status.

8.5.2. Minimum Training Requirement. Intelligence training is given each UTA covering the required subject areas; however, intelligence testing will be the method of documentation for minimum training. The test will be prepared by the intelligence section with the assistance of Stan/Eval to ensure pilots are familiar with the appropriate threat systems and sources of information for aircrews.

8.5.3. Documentation. DOT documents training/testing in AFORMS.

8.5.4. Required subject areas are:

8.5.4.1. Threat capabilities.

8.5.4.2. Visual recognition.

8.5.4.3. Escape and evasion.

8.5.4.4. Collection and reporting.

8.5.4.5. RWR. (Document actual EC training with intelligence.)

8.5.4.6. Countermeasures. (Document with Intelligence.)

8.5.4.7. Current Intelligence. Made available to pilots through briefings, read files, and threat boards.

8.6. Weapons and Tactics Training:

8.6.1. MQT Training. Training for MQT will be as listed in chapter 4 of this regulation.

8.6.2. CT Training. The continuation training academics program (including weapons certification) will include but is not limited to the following subject areas:

8.6.2.1. Surface Attack Tactics (SAT).

8.6.2.2. Air-to-Air Tactics (A/A).

8.6.2.3. Basic Fighter Maneuvers (BFM).

8.6.2.4. Joint maritime operations (JMO).

8.6.2.5. Maverick.

8.6.2.6. F-16 weapons systems.

8.6.2.7. Munitions and fuses.

8.6.2.8. Electronic combat measures (ECM).

8.6.2.9. Enemy capabilities and tactics.

8.6.2.10. Weapons academic test.

8.6.3. Documentation. Document weapons continuation training in the AFORMS system. Document IQT and MQT in individual training folders.

8.6.4. Minimum Training. Individuals who miss weapons and tactics lectures will as a minimum complete the weapons and tactics academic test.

8.7. Electronic Combat Training. Accomplish training in this area as prescribed in AFI 11-2F-16V1, and paragraph 5.6 of this regulation.

8.8. Aircraft General Training:

8.8.1. General. Academic presentations will be given periodically in aircraft general subject areas to ensure pilot knowledge retainability. Presentations will also be made when required due to changes performed on the aircraft.

8.8.2. Subject areas include but are not limited to the following areas:

8.8.2.1. Electrical system.

8.8.2.2. Flight controls system.

8.8.2.3. Hydraulic systems

8.8.2.4. Engine.

8.8.2.5. Fuel system.

8.8.2.6. Avionics systems/interface.

8.8.2.7. F-16 Flight characteristics.

8.8.3. Instructors. Each flight will be tasked periodically to make an aircraft general presentation.

8.9. Additional Training:

8.9.1. Guest Speakers. Special academic presentations may be accomplished in any of the above subject areas by visiting experts. These experts may consist of higher headquarters personnel, company representatives, technical representatives, Department of Defense (DOD) personnel, fighter weapons school instructors, test and evaluation personnel, and foreign country personnel.

8.9.2. Academic Content. These presentations will be geared to providing the wing with the most up-to-date information available.

8.10. Documentation:

8.10.1. Attendance Noted. All academic presentations are documented/dated and attendance noted.

8.10.2. Monitor. The 302 FS/DOT monitors the list of pilots requiring makeup training.

8.10.3. Videotape Availability. The 302 FS/DOT is responsible for ensuring the videotapes are available to pilots requiring academic/briefing makeup training.

8.10.4. Documentation. Attendance is maintained on the AFORMS system when possible. Otherwise, attendance rosters will be kept manually.

8.11. Forms Prescribed. 944 FW Form 1, 944 FW Form 3, 944 FW Form 4, and 944 FW Form 6.

CRAIG S. FERGUSON, Colonel, USAFR
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

AFI 11-2F-16V1	*Flying Operations Training*
AFI 11-2F-16V3	*F-16 Operations Procedures*
AFI 11-202V2	*Aircrew Standardization/Evaluation Program*
AFI 11-202V3	*General Flight Rules*
AFI 11-205	*Aircraft Cockpit and Formation Flight Signals*
AFI 11-214	*Aircrew and Weapons Director Procedures for Air Operations*
AFI 11-301	*Aircrew Life Support (ALS) Program*
AFI 11-401	*Flight Management*
AFI 11-403	*Aerospace Physiological Training Program*
AFI 11-404	*Centrifuge Training for High-G Aircrew*
AFPAM 11-404	*G-Awareness for Aircrew*
AFI 13-212V1	*Weapons Ranges*
AFI 32-4001	*Disaster Preparedness Planning and Operations*
AFI 32-4002	*Hazardous material Emergency Planning and Response Program*
AFI 36-2201	*Developing, Managing and Conducting Training*
AFI 36-2226	*Combat Arms Training and Maintenance (CATM) Program*
AFI 36-2238	*Self-Aid and Buddy Care Training*
AFI 51-401	*Training and Reporting to Ensure Compliance With the Law of Armed Conflict*
AFPD 51-9	*Civil Law for Individuals*
AFI 71-101V1	*Criminal Investigations*
AFI 91-202	*The US Air Force Mishap Prevention Program*
AFI 91-301	*Air Force Occupational and Environmental Safety, Fire Prevention and Health (AFOSH) Program*
AFTTP 3-1V2	*Threat Reference Guide and Countertactics*
AFTTP 3-1V5	*Tactical Employment F-16*
MCI 11-F-16V5	*F-16 Combat Aircraft Fundamentals*
MCI 11-463/944 FW Sup 1	*Operations Supervision*
MCR 55-125	*Preparation of Mission Planning Material*
944 FWI 11-201	*Cross Country Procedures*
944 FWI 11-401	*Incentive/Orientation Familiarization Flights and F-16 Spouse Taxi Ride Program*